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Corporate Data Network (CDN) Data Requirements Task

Data Model

ORIGINAL

Touche Ross and Company

Prepared for
U.S. Nuclear Regulatory
Commission

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NUREG/CR-4322
Vol. 3

Corporate Data Network (CDN) Data Requirements Task

Data Model

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CORPORATE DATA NETWORK

DATA REQUIREMENTS TASK

D A T A M O D E L

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CORPORATE DATA NETWORK

DATA REQUIREMENTS TASK

D A T A M O D E L

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I. SUMMARY

In this section we provide an overview of the data modeling activities and the results of the model. We have presented the information as follows:

- Background of the Data Model;
- Objective of the Data Model;
- Scope of the information modeled;
- Approach to developing the Data Model;
- Key assumptions in developing the model;
- Summary results of the data modeling task; and
- Next steps in the Corporate Data Network (CDN) planning process.

A. BACKGROUND

The NRC has initiated a five year project to centralize its information in a Corporate Data Network. In order to implement such a concept, a requirements analysis and an implementation plan need to be developed.

The Data Model is one step in this analysis and planning process. The Data Model is based on information in the Enterprise Model and the Data Dictionary developed by Touche Ross during January - April, 1985.

The Enterprise Model provided the NRC with:

- Agency-wide information requirements in the form of data entities; and
- Organizational demand patterns as the basis for clustering the entities into logical groups.

These logical groups were used in the initial data modeling activities and subsequently modified.

The Data Dictionary provided the NRC with:

- Definitions and example attributes for each entity; and
- Properties for each entity, including origin, access, volume, and frequency.

This information was used in conjunction with the data model to estimate the development complexity for each of the entities.

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B. OBJECTIVE

The objective of developing a Data Model is to organize the data entities described in the Data Entity Dictionary into a normalized schema. A normalized schema contains all data types and associations required to support users with redundancies and inconsistencies resolved. A normalized schema is necessary for logically structuring databases.

A logically structured database minimizes both maintenance and application development costs. New data types can be added to the databases without affecting the physical structure of the databases. Consequently, application programs do not need to be rewritten when new data types are added.

C. SCOPE

The scope of our data modeling includes those entities identified in the Data Entity Dictionary issued May 31, 1985, excluding the entities "document", "scientific code/data" and "CDN Index".

As shown in Exhibit I-1, the CDN will encompass three types of information -- management/operating data, scientific code/data, and document/full text. The focus of the CDN Data Requirements Task performed by Touche Ross is on the management/operating data component of the CDN. The emphasis is on the data required by the NRC to assure public health and safety and the necessary supporting administrative information. Therefore, the data model does not include detailed information requirements for text or for scientific code/data. The requirements for textual or scientific data were identified in the Enterprise Model and were grouped under the entity headings "document" and "scientific code/data", respectively.

Some information will reside in both the data component and the document/full text component. For example, the full text of a report may be stored as a document, but data on that report might be collected and tracked in the data component. Similarly, scientific algorithms and resulting computations will be contained in the scientific code/data component, but the permanent record of

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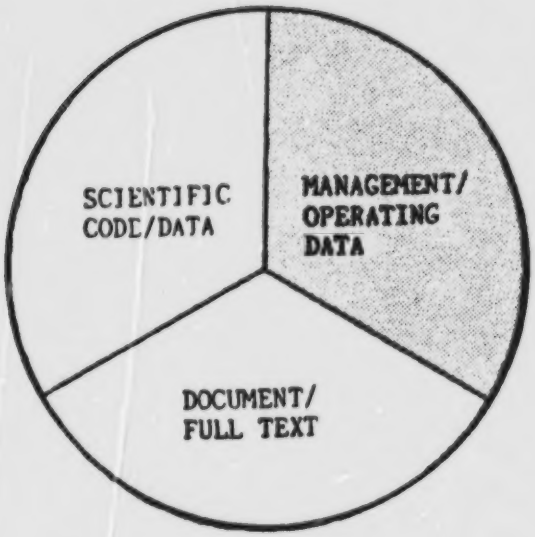
EXHIBIT I-1

SCOPE OF DATA REQUIREMENTS TASK



CORPORATE DATA NETWORK

INFORMATION COMPONENTS

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the results might be placed in the data component of the CDN. A CDN Index will allow the user to determine the location and access method for information in any one of the three components as shown in Exhibit I-2.

D. APPROACH

Our approach to developing the Data Model involved the following major activities:

- Organize entities into "clusters" based on NRC demand patterns as defined in the Enterprise Model;
- Document the relationships between entities ("user views") both within and between clusters;
- Validate the user views with NRC technical, legal, and administrative resource personnel;
- Generate logical databases through the use of a computerized modeling tool; and
- Evaluate the resulting databases and modify, as required.

Our approach is described in further detail in Section II.

E. ASSUMPTIONS

In order to build the data model, we needed to have all entities in "third normal form".* Third normal form is necessary in order to minimize redundancy and maintain data integrity in the logical databases. Consequently, each of the attributes must be dependent upon the key, the whole key, and nothing but the key (each attribute will be unique). However, since our scope was to define the overall logical structure of all NRC databases rather than the detailed logical structure of individual databases, we assumed that the example attributes presented in the Data Entity Dictionary are unique to each entity.

---

*Normalization resolves 1) attribute redundancy, 2) many-to-many relationships, and 3) transitive relationships. The processes and results associated with "normalization" are discussed in detail in Section II.

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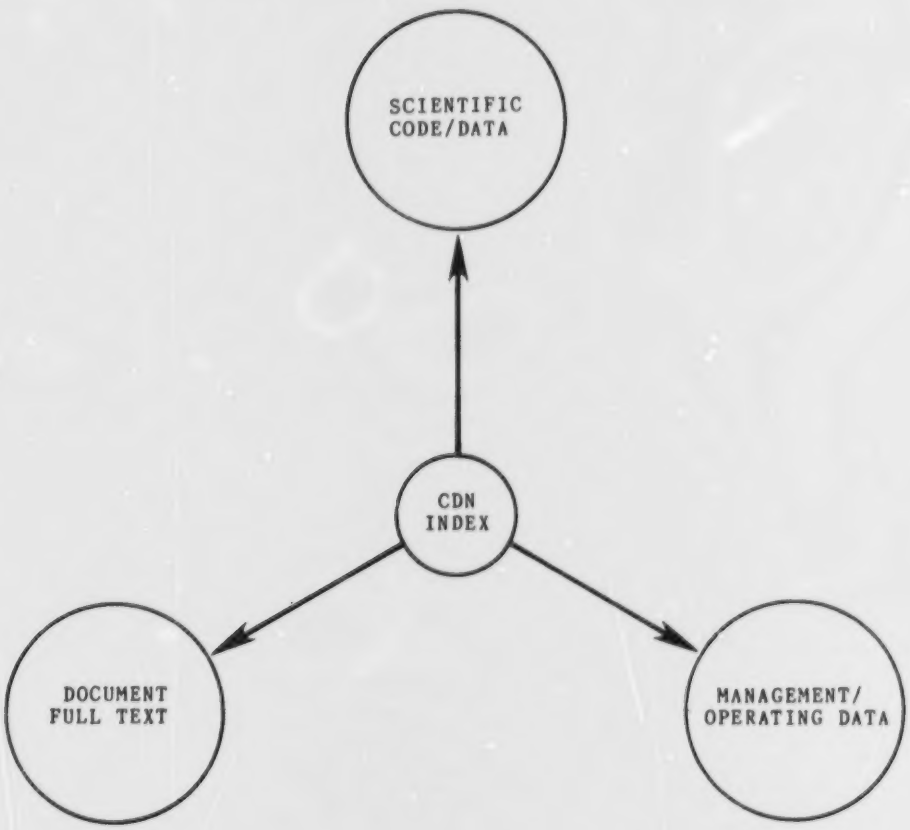
EXHIBIT I-2

THE CDN INDEX WILL DIRECT USERS TO DATA LOCATIONS



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F. SUMMARY OF DATA MODELING RESULTS

A summary of the results of the data model is presented in Exhibit I-3. The model contains:

- 22 logical databases composed of 84 entities,
- 1 special purpose category containing 8 entities, and
- 1 general purpose category containing 6 entities.

A special purpose category was designed to accommodate entities which:

- Relate to other entities but cannot be logically clustered with any of the 22 groups (e.g., "fee", "cost standards"); or
- Contain data that is of a temporary nature (i.e., "open TMI item").

A general purpose category was designed to accommodate entities which are:

- Not closely related to any entities in the other 22 groups, and
- Required by every organization.

For each of the 22 logical databases, there are one or two core entities through which all of the relationships within that database can be derived. These core entities are highlighted in Exhibit I-4.

The data entities are also linked between databases through these core entities. Links between databases were established when it was determined that data was required simultaneously about entities in separate databases. However, if it was determined that an entity was merely "referenced" (e.g., identifying number or name) a formal link was not established. Such a reference would be embedded in the database requiring the reference. These links or relationships between databases are summarized, in descending order of magnitude, in Exhibit I-5.

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EXHIBIT I-3

LOGICAL DATABASES

ALLEGATION-DATABASE

ALLEGATION
INVESTIGATION (CASE)

BUILDING/PROPERTY-DATABASE

BUILDING (NRC)
EQUIPMENT (NRC TECHNICAL)
PHYSICAL SECURITY (NRC)
PROPERTY (NRC)
VISITOR

COMMISSION-DATABASE

COMMISSION ORDER
COMMISSION PAPER

ENFORCEMENT-DATABASE

DEVIATION
ENFORCEMENT ACTION
VIOLATION

EVENTS-DATABASE

EVENT
EXPOSURE
RELEASE
THREAT

FINANCE/ACCOUNTING-DATABASE

BUDGET
DECISION UNIT
G/L ACCOUNT
PLANNED ACCOMPLISHMENT
TRAVEL

HARDWARE-DATABASE

COMPONENT
DEFICIENCY
STRUCTURE
SYSTEM
TEST

INSPECTION-DATABASE

INSPECTION
INSPECTION MODULE
INSPECTION PROGRAM
OUTSTANDING ITEM (INSPECTION)

ISSUES-DATABASE

BACKFIT ISSUE
BULLETIN
GENERIC LETTER
GENERIC/US ISSUE
ISSUE (GENERAL)

LEGAL-DATABASE

APPEAL
CASE (LEGAL)
DECISION
HEARING
INTERVENOR
PETITION
PLEADING
WITNESS

LICENSE-DATABASE

LICENSE
LICENSE APPLICANT
LICENSE APPLICATION
LICENSEE
LICENSEE PLAN
TECHNICAL SPECIFICATION/LICENSE CONDITION

LICENSING ACTION-DATABASE

LICENSE COMMITMENT
LICENSING ACTION
OPEN ITEM (LICENSING)

OPERATOR-DATABASE

EXAMINATION (OPERATOR)
REACTOR OPERATOR

ORGANIZATION-DATABASE

ORGANIZATION
POSITION

PERSONNEL-DATABASE

EMPLOYEE (NRC)
RECRUIT/APPLICANT
PERSONNEL ACTION
GRIEVANCE

PROCUREMENT-DATABASE

PROVISION AGREEMENT
CONTRACTOR/PROVIDER (NRC)
PROVISION REQUEST

RADIOACTIVE MATERIALS-DATABASE

FUEL ASSEMBLY
PACKAGE
RADIOACTIVE MATERIAL (ACCOUNTABILITY)
SHIPMENT

REGULATORY-DATABASE

GUIDE/STANDARD (NRC)
INTERNATIONAL AGREEMENT
REGULATION
STATUTE

RESEARCH-DATABASE

INTERAGENCY AGREEMENT-TECHNICAL
RESEARCH PROGRAM

SITE-DATABASE

FACILITY (NON-REACTOR)
SITE
UNIT

STATE-DATABASE

DEMOGRAPHICS
ECONOMIC INFORMATION
POWER UTILITY
PUBLIC UTILITY COMMISSION
STATE

VENDOR-DATABASE

DESIGN
TOPICAL REPORT
VENDOR

SPECIAL PURPOSE ENTITIES

COST STANDARDS
DRILL
FEE
FOIA REQUEST
OPEN TMI ITEM
PATENT
TRAINING
UNION

GENERAL PURPOSE ENTITIES

ADVISOR/EXPERT/CONSULTANT
COMMITTEE
INQUIRY
MEETING
PROJECT
WORK ITEM

OTHER CDN COMPONENTS

CDN INDEX
DOCUMENT
SCIENTIFIC CODE/DATA

EXHIBIT I-4

LOGICAL DATABASES AND CORE ENTITIES

DATABASE NAME	CORE ENTITIES	OTHER ENTITIES
ALLEGATION	ALLEGATION	INVESTIGATION (CASE)
BUILDING/PROPERTY	BUILDING (NRC)	EQUIPMENT (NRC TECHNICAL) PHYSICAL SECURITY (NRC) PROPERTY (NRC) VISITOR
COMMISSION	COMMISSION ORDER	COMMISSION PAPER
ENFORCEMENT	VIOLATION	DEVIATION ENFORCEMENT ACTION
EVENTS	EVENT	EXPOSURE RELEASE THREAT
FINANCE/ACCOUNTING	BUDGET G/L ACCOUNT	DECISION UNIT PLANNED ACCOMPLISHMENT TRAVEL
HARDWARE	SYSTEM	COMPONENT DEFICIENCY STRUCTURE TEST
INSPECTION	INSPECTION	INSPECTION MODULE INSPECTION PROGRAM OUTSTANDING ITEM (INSPECTION
ISSUES	ISSUE (GENERAL)	BACKFIT ISSUE BULLETIN GENERIC LETTER GENERIC/US-ISSUE
LEGAL	CASE (LEGAL)	APPEAL DECISION HEARING INTERVENOR PETITION PLEADING WITNESS
LICENSE	LICENSE	LICENSE APPLICANT LICENSE APPLICATION LICENSEE LICENSEE PLAN TECH SPEC/LICENSE CONDITION

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EXHIBIT I-4
(CONTINUED)
LOGICAL DATABASES AND CORE ENTITIES

DATABASE NAME	CORE ENTITIES	OTHER ENTITIES
LICENSING ACTION	LICENSING ACTION	LICENSE COMMITMENT OPEN ITEM (LICENSING)
OPERATOR	REACTOR OPERATOR	EXAMINATION (OPERATOR)
ORGANIZATION	ORGANIZATION	POSITION
PERSONNEL	EMPLOYEE (NRC)	RECRUIT/APPLICANT PERSONNEL ACTION GRIEVANCE
PROCUREMENT	PROVISION AGREEMENT	CONTRACTOR/PROVIDER (NRC) PROVISION REQUEST
RADIOACTIVE MATERIALS	PACKAGE RADIOACTIVE MATERIAL (ACCOUNTABILITY)	FUEL ASSEMBLY SHIPMENT
REGULATORY	GUIDE/STANDARD (NRC)	INTERNATIONAL AGREEMENT REGULATION STATUTE
RESEARCH	RESEARCH PROGRAM	INTERAGENCY AGREEMENT-TECHNIC
SITE	FACILITY (NON-REACTOR) UNIT	SITE
STATE	STATE	DEMOGRAPHICS ECONOMIC INFORMATION PUBLIC UTILITY PUBLIC UTILITY COMMISSION
VENDOR	VENDOR	DESIGN TOPICAL REPORT

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EXHIBIT I-5

SUMMARY OF LOGICAL DATABASE LINKS

DATABASE NAME	NUMBER OF LINKS TO OTHER DATABASES*
License	14
Event	13
Inspection	12
Materials	12
Site	11
Enforcement	11
Allegation	10
Research	8
Hardware	8
Vendor	8
Regulatory	7
Issues	7
Procurement	6
Commission	6
Legal	6
Finance/Accounting	6
Licensing Action	5
Personnel	5
State	4
Building/Property	3
Operator	3
Organization	2

*Indicates the number of other databases that are linked to a database, not the total number of individual relationships

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G. NEXT STEPS

In order to complete the Data Requirements Task for the CDN, we will be performing three final activities. These are:

- Perform cost/benefit analysis.

  We will examine each of the databases and will prepare a cost/benefit analysis for developing each database.

- Determine development priorities.

  Based upon the cost/benefit analysis and other factors, we will assign development priorities to the databases.

- Prepare development strategy.

  Finally, we will prepare a strategic data plan which summarizes the results of our analysis and provides the NRC with the guidance needed to begin detailed development of the logical databases/applications. We will deliver the draft of the plan for NRC review and will revise and finalize the plan, as required.

An overview of the relationship of data modeling to strategic planning and implementation activities is shown in Exhibit I-6. Subsequent CDN tasks, many of which may be performed concurrently following the development of the strategic data plan, may be divided into two major categories (i.e., database and user application). The database tasks include 1) detailed design of the logical databases and maintenance applications, 2) development of the logical and physical design of the databases and maintenance applications, and 3) implementation of the databases and maintenance applications. The application tasks include 1) development of the detailed requirements for user applications, 2) logical and physical design of user applications, and 3) implementation of user applications.

* * * * * * * * *

The remainder of this document describes the modeling process in greater detail and presents the output of the model. For information on the definitions or the properties of the data entities in the model, refer to the Data Entity Dictionary.

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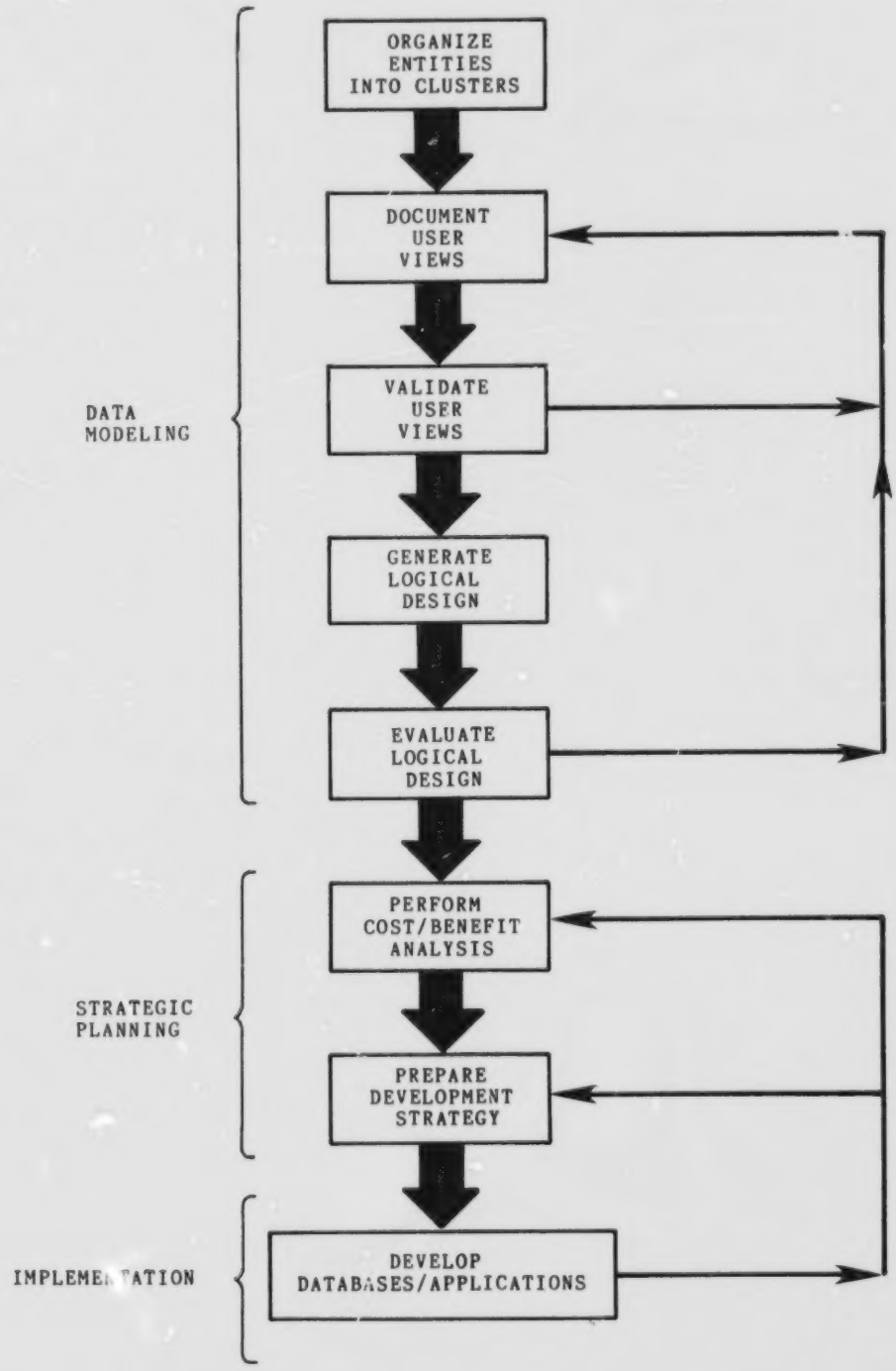
EXHIBIT I-6

RELATIONSHIP OF

MODELING, STRATEGIC PLANNING AND IMPLEMENTATION ACTIVITIES



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II. DATA MODEL

In this section we provide a detailed description of our modeling approach and present the results of the data model.

A. APPROACH

Our approach to developing the Data Model involved the following major activities:

- Organize entities into "clusters" based on NRC demand patterns;
- Prepare a graphic analysis of entity relationships "(user views") both within and between clusters;
- Validate the user views with NRC technical, legal, and administrative resource personnel;
- Generate logical databases through the use of a computerized modeling tool; and
- Evaluate the resulting databases and modify, as required.

Each of the data modeling activities is described below:

1. Organize Entities Into Clusters

Data entities can be grouped into "clusters" based on the demand patterns of users. Clustering helps users to focus on a group of entities in order to define how those entities are related to one another. Grouping entities into clusters is the first step in the logical design process.

This process of grouping or clustering entities is commonly referred to as "affinity analysis". The affinity between entities can be determined by calculating a ratio of the number of associations two entities have in common compared to the number they could have in common. For example, pairs of data entities that are always used together have an affinity of 100. Pairs of data entities that are never used together have an affinity of 0. Based on entity affinities, entities that have a high affinity with each other are clustered.

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Using a computerized modeling tool, we generated an initial affinity analysis based on the organizational demand patterns reflected in the Enterprise Model.

However, a computerized affinity analysis only provides an approximation of logical clusters. The computer analysis provides information on which entities are used together but not how the entities are used together. Consequently, some manual adjustment was required. We examined each cluster and identified inconsistencies. We then modified the cluster groups to correct these inconsistencies. Appendix A shows the cluster groups resulting from this process and the parameters used in the affinity analysis.

2. Document User Views

Based on our understanding of NRC, we prepared an initial draft of how users view the data in each cluster. We used a simple, easy to understand method for documenting these user views, called "bubble charting". Bubble charts graphically depict entity relationships independent of the current operating environment.

A bubble chart is also an effective tool for identifying duplicate entities and for testing the results of the affinity analysis. For example, bubble charting will highlight if an entity is not related to entities within its cluster. If no relationship existed within that cluster, the entity would be removed from the cluster. As a result of this process, some changes were made to the entity list in the Data Entity Dictionary, dated May 1985. Revisions were issued for the Data Dictionary and Enterprise Model describing these changes on June 11, 1985. A summary of these changes to the data entity list are presented in Appendix B.

An example of a bubble chart is shown in Exhibit II-1. The following conventions are used in the bubble chart:

- A single headed arrow indicates a one-to-one relationship exists;
- A double headed arrow indicates that a multiple relationship could exist (e.g., 0,1 or many);
- A brief phrase describes the nature of the relationship, reading from top to bottom; and
- All entities are presented in the singular form.

In the example shown, one employee may occupy one and only one position. Many positions, however, are allocated to one organization. A complete set of bubble charts for the entities analyzed are presented in Appendix C.

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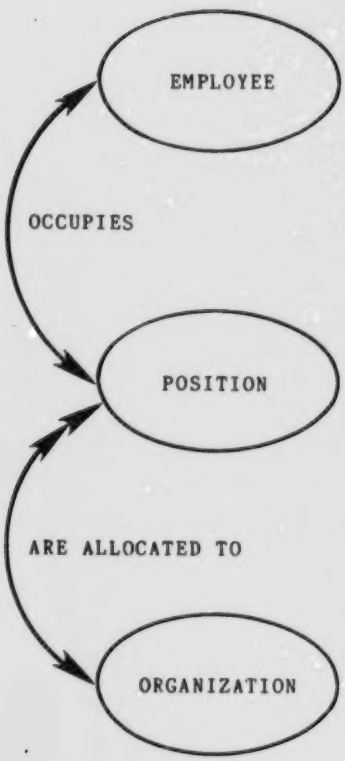
EXHIBIT II-1

EXAMPLE BUBBLE CHART



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3. Verify Entity Relationships Within and Between Clusters

A group of technical, administrative and legal resource personnel were selected by each organization to review the entity relationships depicted in the bubble charts. Most of the major organizations participated in the process including one representative from the regions. A list of those who participated in the review process is presented in Appendix D.

Each group was asked to review the bubble charts relevant to its respective functional area. All groups reviewed five bubble charts which were considered "generic" to all NRC functions. Each of the groups also identified the major links between each of the clusters. The link was established by:

- Identifying one or two core entities in each cluster through which all the other entities in that cluster are related; and
- Determining if data is required simultaneously about an entity in a different cluster.

However, if it was determined that an entity was merely "referenced" (e.g., identifying number or name) a formal link was not established. Such a reference would be embedded in the database requiring the reference.

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4. Generate Logical Database Design

Using the information obtained during these validation sessions, we modified the cluster groupings to reflect the users' views. We then coded the information and entered it into a computerized modeling tool (Database Design Inc.'s DATA DESIGNER) to generate the logical databases (logical databases are the result of normalized clusters). The modeling tool then documented the logical databases including:

- Schema graphics,*
- Data links,
- Data entity index, and
- Single keys and concatenated keys (concatenated keys are described in II-B-2).

5. Evaluate Logical Database Design

Finally, we evaluated the logical database design during data modeling and determined the need for additional changes considering such factors as:

- Affinity

  If an entity relationship within a logical database was weak or a reference only, the entity was removed from the database. For example, "training" moved from the personnel database and was categorized as a special purpose entity because its association to "employee (NRC)" was only a reference; and

- Development Complexity

  If a logical database presented complex development problems due to high data volumes associated with its entities, the database was divided into two or more logical databases. For example, the nuclear hardware database became the hardware and vendor databases.

A draft of the logical database design was presented to the NRC for review and comment. These comments were incorporated into our analysis for the final logical database design.

---

*Schema graphics are computer generated, graphic representations of user data requirements. The schema graphics are too complex for the purposes of presentation in this document.

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B. DATA MODEL RESULTS

1. Overview

The results of the data model are presented in Tabs A, B, and C and are described below. Exhibit I-3 (in the previous section) shows an overview of the content of the logical databases. The model contains:

- 22 logical databases composed of 84 entities,
- 1 special purpose category containing 8 entities, and
- 1 general purpose category containing 6 entities.

A special purpose category was designed to accommodate entities which:

- Relate to other entities but cannot be logically clustered with any of the 22 groups (e.g., "fee", "cost standards"); or
- Contain data that is of a temporary nature (i.e., "open TMI item").

A general purpose category was designed to accommodate entities which are:

- Not closely related to any entities in the other 22 groups, and
- Required by every organization.

2. Data Entity Relationships within Databases

The data group link reports provided in Tab A describe how the entities within each database (presented in alphabetical order) are related to each other. The relationships (links) are shown as follows:

- The term "data group" is synonymous with the term "entity".
- The entity listed under the "FROM DATA GROUP" is always presented in the singular form.

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- The relationship between each entity (data group) is described by a brief phrase called a "LINK NAME". The type of the relationship (one or many) is listed under "LINK TYPE". For example, in the report shown in Exhibit II-2, a "budget consists of many decision unit[s]".

- If a relationship has been described in one direction, the reverse relationship is not described. For example, in Exhibit II-2, since "budget" to "G/L account" has been described, the LINK NAME for "G/L account" to "budget" is not described. Note, however, that the LINK TYPE is provided.

- Whenever there is a possible multiple relationship between data groups (many-to-many) a concatenated key (two or more entities combined to form a single key) is created as a result of normalization. This concatenation is demonstrated in Exhibit II-3. In the example, there are many instances of travel that are accounted for in many G/L accounts, as denoted by the double-headed arrows. A concatenated key is created in which there is a one-to-one relationship between the key "G/L account + travel" and "travel" and between the concatenated key and "G/L account", as denoted by the single-headed arrows. On the report shown in Exhibit II-4, a new data group is created to handle this concatenated key. The data group is comprised of the "TO DATA GROUP" entities.

- During normalization, certain relationships were determined to be transitive or superfluous and have subsequently been deleted. For example, in Exhibit II-5, the reverse one-to-one relationship between "event" and "exposure" is transitive since a one-to-one relationship already exists through "release". During the detail database design, it may become necessary to recreate some of these relationships to improve operational performance.

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EXHIBIT II-2

EXAMPLE OF RELATIONSHIPS BETWEEN TWO ENTITIES

DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW6.DES DESIGN NUMBER: 67 17:39:24 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 BUDGET	2 G/L-ACCOUNT (LINK NAME: CONSISTS.OF) 3 DECISION-UNIT (LINK NAME: CONSISTS.OF)	MANY MANY
2 G/L-ACCOUNT	1 BUDGET 6 G/L-ACCOUNT-TRAVEL	ONE MANY
3 DECISION-UNIT	1 BUDGET 4 PLANNED-ACCOMPLISHMENT (LINK NAME: CONSISTS.OF)	ONE MANY
4 PLANNED-ACCOMPLISHMENT	3 DECISION-UNIT	ONE
5 TRAVEL	6 G/L-ACCOUNT-TRAVEL	MANY
6 G/L-ACCOUNT-TRAVEL	2 G/L-ACCOUNT 5 TRAVEL	ONE ONE

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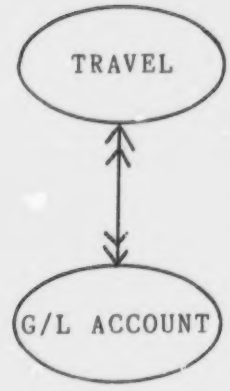
EXHIBIT II-3

HOW CONCATENATED KEYS ARE CREATED

BEFORE CONCATENATION:



AFTER CONCATENATION:

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EXHIBIT II-4

EXAMPLE OF NEW DATA GROUP WITH CONCATENATED KEYS

DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW6.DES DESIGN NUMBER: 67 17:39:24 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 BUDGET	2 G/L-ACCOUNT (LINK NAME: CONSISTS.OF) 3 DECISION-UNIT (LINK NAME: CONSISTS.OF)	MANY MANY
2 G/L-ACCOUNT	1 BUDGET 6 G/L-ACCOUNT+TRAVEL	ONE MANY
3 DECISION-UNIT	1 BUDGET 4 PLANNED-ACCOMPLISHMENT (LINK NAME: CONSISTS.OF)	ONE MANY
4 PLANNED-ACCOMPLISHMENT	3 DECISION-UNIT	ONE
5 TRAVEL	6 G/L-ACCOUNT+TRAVEL	MANY
6 G/L-ACCOUNT+TRAVEL	2 G/L-ACCOUNT 5 TRAVEL	ONE ONE

NEW DATA GROUP

ENTITIES COMPRISING CONCATENATED KEY

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EXHIBIT II-5

NORMALIZATION EXAMPLE

BEFORE NORMALIZATION:

AFTER NORMALIZATION:

* The dashed line indicates a transitive relationship that has been eliminated during normalization

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3. Data Entity Relationships between Databases

For each of the 22 logical databases, there are one or two core entities through which all of the relationships within its database can be derived. The data entities in each database, therefore, are linked through these core entities. The relationships between databases are shown in Tab B. The relationships shown are between the core entities only within each database. Additional relationships may be defined during detail design of the databases. The format and conventions used on this report are the same as the report in Tab A.

4. Data Entity Relationship Cross-Reference

The entity relationships both within and between the 22 logical databases and the general and special purpose entities are summarized in Tab C. The entities in the logical databases are presented in alphabetical order. As indicated above, additional relationships may be defined during detail design of the databases.

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NRCVIEW1.DES DESIGN NUMBER: 62 17:39:22 - 05/31/85

REPORT 001: DATA GROUP LINKS

ALLEGATION-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 INVESTIGATION(CASE)	3 INVESTIGATION(CASE)+ALLEGATION	MANY
2 ALLEGATION	3 INVESTIGATION(CASE)+ALLEGATION	MANY
3 INVESTIGATION(CASE)+ALLEGATION	1 INVESTIGATION(CASE)	ONE
	2 ALLEGATION	ONE

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NRCVIEW2.DES DESIGN NUMBER: 63 17:39:23 - 05/31/85

REPORT 001: DATA GROUP LINKS BUILDING/PROPERTY-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 BUILDING(NRC)	2 VISITOR	MANY
	(LINK NAME: IS.VISITED.BY)	
	4 PHYSICAL-SECURITY(NRC)	ONE
	(LINK NAME: IS.PROTECTED.BY)	
	5 EQUIPMENT(NRC-TECH)	MANY
	(LINK NAME: CONTAINS)	
	3 PROPERTY(NRC)	MANY
	(LINK NAME: CONTAINS)	
2 VISITOR	1 BUILDING(NRC)	ONE
	4 PHYSICAL-SECURITY(NRC)	ONE
	(LINK NAME: IS.MONITORED)	
3 PROPERTY(NRC)	5 EQUIPMENT(NRC-TECH)	ONE
	(LINK NAME: CONSISTS.OF)	
	4 PHYSICAL-SECURITY(NRC)	ONE
	(LINK NAME: IS.PROTECTED.BY)	
4 PHYSICAL-SECURITY(NRC)	3 PROPERTY(NRC)	ONE
	2 VISITOR	ONE
5 EQUIPMENT(NRC-TECH)	3 PROPERTY(NRC)	ONE

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NRCVIEW3.DES DESIGN NUMBER: 64 17:39:23 - 05/31/85

REPORT 001: DATA GROUP LINKS COMMISSION-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 COMMISSION-PAPER	3 COMMISSION-PAPER+ COMMISSION-ORDER	MANY
2 COMMISSION-ORDER	3 COMMISSION-PAPER+ COMMISSION-ORDER	MANY
3 COMMISSION-PAPER+ COMMISSION-ORDER	1 COMMISSION-PAPER	ONE
	2 COMMISSION-ORDER	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW4.DES DESIGN NUMBER: 65 17:39:23 - 05/31/85

REPORT 001: DATA GROUP LINKS

ENFORCEMENT-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 VIOLATION	2 ENFORCEMENT-ACTION (LINK NAME: MAY.LEAD.TO)	ONE
2 ENFORCEMENT-ACTION	1 VIOLATION	MANY
	3 DEVIATION	MANY
3 DEVIATION	2 ENFORCEMENT-ACTION (LINK NAME: MAY.LEAD.TO)	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW5.DES DESIGN NUMBER: 66 17:39:24 - 05/31/85

REPORT 001: DATA GROUP LINKS EVENTS-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 EVENT	2 THREAT (LINK NAME: COULD.RESULT.FROM)	ONE
	3 RELEASE (LINK NAME: COULD.CAUSE)	MANY
	4 EXPOSURE (LINK NAME: COULD.RESULT.IN)	MANY
2 THREAT	1 EVENT	ONE
3 RELEASE	1 EVENT	ONE
	4 EXPOSURE (LINK NAME: COULD.RESULT.IN)	MANY
4 EXPOSURE	3 RELEASE	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW6.DES DESIGN NUMBER: 67 17:39:24 - 05/31/85

REPORT 001: DATA GROUP LINKS

FINANCE/ACCOUNTING-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 BUDGET	2 G/L-ACCOUNT (LINK NAME: CONSISTS.OF)	MANY
	3 DECISION-UNIT (LINK NAME: CONSISTS.OF)	MANY
2 G/L-ACCOUNT	1 BUDGET	ONE
	6 G/L-ACCOUNT+TRAVEL	MANY
3 DECISION-UNIT	1 BUDGET	ONE
	4 PLANNED-ACCOMPLISHMENT (LINK NAME: CONSISTS.OF)	MANY
4 PLANNED-ACCOMPLISHMENT	3 DECISION-UNIT	ONE
5 TRAVEL	6 G/L-ACCOUNT+TRAVEL	MANY
6 G/L-ACCOUNT+TRAVEL	2 G/L-ACCOUNT	ONE
	5 TRAVEL	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW7.DES DESIGN NUMBER: 68 17:39:25 - 05/31/85

REPORT 001: DATA GROUP LINKS

HARDWARE-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 SYSTEM	2 DEFICIENCY	MANY
	(LINK NAME: MAY.HAVE)	
	3 STRUCTURE	MANY
	(LINK NAME: IS.HOUSED IN)	
	4 COMPONENT	MANY
	(LINK NAME: CONSISTS.OF)	
	6 SYSTEM+TEST	MANY
2 DEFICIENCY	4 COMPONENT	ONE
	(LINK NAME: MAY.BE.FOUND)	
	3 STRUCTURE	ONE
	(LINK NAME: MAY.BE.FOUND)	
3 STRUCTURE	1 SYSTEM	ONE
	2 DEFICIENCY	MANY
	8 STRUCTURE+TEST	MANY
4 COMPONENT	1 SYSTEM	ONE
	2 DEFICIENCY	MANY
	7 COMPONENT+TEST	MANY
5 TEST	6	MANY
	7	MANY
	8 STRUCTURE+TEST	MANY
6 SYSTEM+TEST	1 SYSTEM	ONE
	5 TEST	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 2

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
7 COMPONENT+TEST	4 COMPONENT	ONE
	5 TEST	ONE
8 STRUCTURE+TEST	3 STRUCTURE	ONE
	5 TEST	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW8.DES DESIGN NUMBER: 69 17:39:25 - 05/31/85

REPORT 001: DATA GROUP LINKS

INSPECTION-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 INSPECTION-PROGRAM	5 INSPECTION-PROGRAM+ INSPECTION-MODULE	MANY
2 INSPECTION-MODULE	5 INSPECTION-PROG+INSPECTION-MOD	MANY
	6 INSPECTION-MODULE+INSPECTION	MANY
3 INSPECTION	4 OUTSTANDING-ITEM(INSPECTION) (LINK NAME: MAY.RESULT.IN)	MANY
	6 INSPECTION-MODULE+INSPECTION	MANY
4 OUTSTANDING-ITEM(INSPECTION)	3 INSPECTION	ONE
5 INSPECTION-PROGRAM+ INSPECTION-MODULE	1 INSPECTION-PROGRAM	ONE
	2 INSPECTION-MODULE	ONE
6 INSPECTION-MODULE+INSPECTION	2 INSPECTION-MODULE	ONE
	3 INSPECTION	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW9.DES DESIGN NUMBER: 70 17:39:26 - 05/31/85

REPORT 001: DATA GROUP LINKS ISSUES-DATABASE

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FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 GENERIC/US-ISSUE	2 BULLETIN	MANY
	(LINK NAME: CAN.GENERATE)	
	3 ISSUE(GENERAL)	ONE
	(LINK NAME: CAN.RESULT.FROM)	
	4 BACKFIT-ISSUE	MANY
	(LINK NAME: CAN.GENERATE)	
	5 GENERIC-LETTER	MANY
	(LINK NAME: CAN.GENERATE)	
2 BULLETIN	4 BACKFIT-ISSUE	ONE
	(LINK NAME: CAN.RESULT.FROM)	
3 ISSUE(GENERAL)	2 BULLETIN	MANY
	4 BACKFIT-ISSUE	MANY
	5 GENERIC-LETTER	ONE
4 BACKFIT-ISSUE	2 BULLETIN	MANY
	3 ISSUE(GENERAL)	ONE
	(LINK NAME: CAN.RESULT.FROM)	
	5 GENERIC-LETTER	MANY
	(LINK NAME: CAN.GENERATE)	
5 GENERIC-LETTER	1 GENERIC/US-ISSUE	ONE
	4 BACKFIT-ISSUE	ONE
	3 ISSUE(GENERAL)	MANY

DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW10.DES DESIGN NUMBER: 71 17:39:26 - 05/31/85

REPORT 001: DATA GROUP LINKS

LEGAL-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 CASE(LEGAL)	2 HEARING (LINK NAME: MAY.RESULT.IN)	MANY
2 HEARING	1 CASE(LEGAL)	ONE
	3 APPEAL (LINK NAME: MAY.RESULT.IN)	MANY
	4 DECISION (LINK NAME: MAY.RESULT.IN)	MANY
	5 PLEADING (LINK NAME: MAY.HAVE)	MANY
	6 INTERVENOR (LINK NAME: MAY.HAVE)	MANY
	7 PETITION (LINK NAME: MAY.HAVE)	MANY
	8 WITNESS (LINK NAME: MAY.HAVE)	MANY
3 APPEAL	4 DECISION	ONE
4 DECISION	2 HEARING	ONE
	3 APPEAL (LINK NAME: MAY.RESULT.IN)	MANY
5 PLEADING	2 HEARING	ONE
6 INTERVENOR	2 HEARING	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 2

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
7 PETITION	2 HEARING	ONE
8 WITNESS	2 HEARING	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW11.DES DESIGN NUMBER: 72 17:39:27 - 05/31/85

REPORT 001: DATA GROUP LINKS

LICENSE-DATABASE,

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 LICENSE	2 LICENSE-APPLICATION	ONE
	(LINK NAME: RESULTS.FROM)	
	3 TECH-SPEC/LIC-COND	ONE
	(LINK NAME: CONTAINS)	
	4 LICENSEE	ONE
	(LINK NAME: IS.ISSUED.TO)	
2 LICENSE-APPLICATION	1 LICENSE	ONE
	6 LICENSE-APPLICANT	ONE
	(LINK NAME: IS.SUBMITTED.BY)	
3 TECH-SPEC/LIC-COND	1 LICENSE	ONE
4 LICENSEE	1 LICENSE	MANY
	5 LICENSEE-PLAN	MANY
	(LINK NAME: PREPARES)	
	6 LICENSE-APPLICANT	ONE
	(LINK NAME: RESULTS.FROM)	
5 LICENSEE-PLAN	4 LICENSEE	ONE
6 LICENSE-APPLICANT	2 LICENSE-APPLICATION	ONE

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NRCVIEW12.DES DESIGN NUMBER: 73 17:39:27 - 05/31/85

REPORT 001: DATA GROUP LINKS

LICENSING ACTION-DATABASE ,

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 LICENSEE-COMMITMENT	4 LICENSEE-COMMITMENT+ LICENSING-ACTION	MANY
2 LICENSING-ACTION	3 OPEN-ITEM(LICENSING) (LINK NAME: MAY.RESULT.IN)	MANY
	4 LICENSEE-COMMITMENT+ LICENSING-ACTION	MANY
3 OPEN-ITEM(LICENSING)	2 LICENSING-ACTION	ONE
4 LICENSEE-COMMITMENT+ LICENSING-ACTION	1 LICENSEE-COMMITMENT	ONE
	2 LICENSING-ACTION	ONE

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NRCVIEW13.DES DESIGN NUMBER: 74 17:39:28 - 05/31/85

REPORT 001: DATA GROUP LINKS

OPERATOR-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 REACTOR-OPERATOR	3 REACTOR-OPERATOR+ EXAMINATION(OPERATOR)	MANY
2 EXAMINATION(OPERATOR)	3 REACTOR-OPERATOR+ EXAMINATION(OPERATOR)	MANY
3 REACTOR-OPERATOR+ EXAMINATION(OPERATOR)	1 REACTOR-OPERATOR	ONE
	2 EXAMINATION(OPERATOR)	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW14.DES DESIGN NUMBER: 75 17:39:28 - 05/31/85

REPORT 001: DATA GROUP LINKS

ORGANIZATION-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 ORGANIZATION	2 POSITION (LINK NAME: CONSISTS.OF)	MANY
2 POSITION	1 ORGANIZATION	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW15.DES DESIGN NUMBER: 76 17:39:28 - 05/31/85

REPORT 001: DATA GROUP LINKS PERSONNEL-DKDABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 EMPLOYEE(NRC)	3 PERSONNEL-ACTION	MANY
	(LINK NAME: CHANGES.OCCUR.THROUGH)	
	4 RECRUIT/APPLICANT	MANY
	(LINK NAME: IS.HIRED.FROM)	
	5 EMPLOYEE(NRC)+GRIEVANCE	MANY
2 GRIEVANCE	4 RECRUIT/APPLICANT	ONE
	5 EMPLOYEE(NRC)+GRIEVANCE	MANY
3 PERSONNEL-ACTION	1 EMPLOYEE(NRC)	ONE
4 RECRUIT/APPLICANT	1 EMPLOYEE(NRC)	ONE
	2 GRIEVANCE	ONE
	(LINK NAME: MAY.FILE)	
5 EMPLOYEE(NRC)+GRIEVANCE	2 GRIEVANCE	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW16.DES DESIGN NUMBER: 77 17:39:29 - 05/31/85

REPORT 001: DATA GROUP LINKS

PROCUREMENT-DATABASE

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FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 PROVISION-AGREEMENT	2 CONTRACTOR/PROVIDER(NRC) (LINK NAME: IS.BINDING.UPON)	ONE
	3 PROVISION-REQUEST (LINK NAME: IS.GENERATED.BY)	ONE
2 CONTRACTOR/PROVIDER(NRC)	1 PROVISION-AGREEMENT	MANY
3 PROVISION-REQUEST	1 PROVISION-AGREEMENT	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW17.DES DESIGN NUMBER: 78 17:39:29 - 05/31/85

REPORT 001: DATA GROUP LINKS

RADIOACTIVE MATERIALS-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 RADIOACTIVE-MATERIAL(ACCOUNT)	2 FUEL-ASSEMBLY (LINK NAME: TRACKS)	MANY
	3 SHIPMENT (LINK NAME: TRACKS)	MANY
	4 PACKAGE (LINK NAME: INVENTORIES)	MANY
2 FUEL-ASSEMBLY	3 SHIPMENT	ONE
3 SHIPMENT	1 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
	2 FUEL-ASSEMBLY (LINK NAME: MAY.CONSIST.OF)	MANY
	4 PACKAGE (LINK NAME: TRANSPORTS)	MANY
4 PACKAGE	1 SHIPMENT/VE-MATERIAL(ACCOUNT)	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW18.DES DESIGN NUMBER: 79 17:39:29 - 05/31/85

REPORT 001: DATA GROUP LINKS REGULATORY-DATABASE.

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 STATUTE	3 INTERNATIONAL-AGREEMENT (LINK NAME: CONTROLS)	MANY
	5 STATUTE+REGULATION	MANY
2 REGULATION	4 GUIDE/STANDARD(NRC) (LINK NAME: IS.EXEMPLIFIED.BY)	MANY
	5 STATUTE+REGULATION	MANY
	6 REGULATION+INTERNATIONAL-AGREE	MANY
3 INTERNATIONAL-AGREEMENT	1 STATUTE	ONE
	6 REGULATION+INTERNATIONAL-AGREE	MANY
4 GUIDE/STANDARD(NRC)	2 REGULATION	ONE
5 STATUTE+REGULATION	1 STATUTE	ONE
	2 REGULATION	ONE
6 REGULATION+INTERNATIONAL-AGREE	2 REGULATION	ONE
	3 INTERNATIONAL-AGREEMENT	ONE

DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW19.DES DESIGN NUMBER: 80 17:39:30 - 05/31/85

REPORT 001: DATA GROUP LINKS RESEARCH-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 INTERAGENCY-AGREEMENT(TECH)	3 INTERAGENCY-AGREEMENT(TECH)+ RESEARCH-PROGRAM	MANY
2 RESEARCH-PROGRAM	3 INTERAGENCY-AGREEMENT(TECH)+ RESEARCH-PROGRAM	MANY
3 INTERAGENCY-AGREEMENT(TECH)+ RESEARCH-PROGRAM	1 INTERAGENCY-AGREEMENT(TECH)	ONE
	2 RESEARCH-PROGRAM	ONE

DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEW20.DES DESIGN NUMBER: 81 17:39:31 - 05/31/05

REPORT 001: DATA GROUP LINKS

SITE-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 SITE	2 FACILITY(NON-REACTOR) (LINK NAME: CONSISTS.OF)	MANY
	3 UNIT (LINK NAME: CONSISTS.OF)	MANY
2 FACILITY(NON-REACTOR)	1 SITE	ONE
3 UNIT	1 SITE	ONE

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NRCVIEW21.DES DESIGN NUMBER: 82 17:39:31 - 05/31/85

REPORT 001: DATA GROUP LINKS

STATE-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 STATE	2 DEMOGRAPHICS	ONE
	(LINK NAME: IS.DESCRIBED.BY)	
	3 ECONOMIC-INFORMATION	ONE
	(LINK NAME: ISSUES)	
	4 PUBLIC-UTILITY-COMMISSION	ONE
	(LINK NAME: HAS)	
	6 STATE+POWER-UTILITY	MANY
2 DEMOGRAPHICS	1 STATE	ONE
3 ECONOMIC-INFORMATION	1 STATE	ONE
	5 POWER-UTILITY	ONE
4 PUBLIC-UTILITY-COMMISSION	1 STATE	ONE
	7 PUBLIC-UTILITY-COMMISSION+ POWER-UTILITY	MANY
5 POWER-UTILITY	3 ECONOMIC-INFORMATION	ONE
	(LINK NAME: ISSUES)	
	6 STATE+POWER-UTILITY	MANY
	7 PUBLIC-UTILITY-COMMISSION+ POWER-UTILITY	MANY
6 STATE+POWER-UTILITY	1 STATE	ONE
7 PUBLIC-UTILITY-COMMISSION+ POWER-UTILITY	4 PUBLIC-UTILITY-COMMISSION	ONE

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NRCVIEW22.DES DESIGN NUMBER: 83 17:39:31 - 05/31/85

REPORT 001: DATA GROUP LINKS

VENDOR-DATABASE

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 VENDOR	2 DESIGN (LINK NAME: BUILDS.FROM)	MANY
2 DESIGN	1 VENDOR	ONE
	3 TOPICAL-REPORT (LINK NAME: IS.EXPLAINED.BY)	ONE
3 TOPICAL-REPORT	2 DESIGN	ONE

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NRCVIEWA.DES DESIGN NUMBER: 84 17:39:09 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 ALLEGATION	2 EVENT	MANY
	(LINK NAME: COULD.RESULT.FROM)	
	3 INSPECTION	MANY
	(LINK NAME: COULD.RESULT.FROM)	
	4 LICENSE	MANY
	(LINK NAME: ARE.CONCERNED.WITH)	
	5 EMPLOYEE(NRC)	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	6 PROVISION-AGREEMENT	MANY
	(LINK NAME: ARE.CONCERNED.WITH)	
	7 GUIDE/STANDARD(NRC)	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	8 UNIT	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	9 FACILITY(NON-REACTOR)	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	10 PACKAGE	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	11 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	12 VENDOR	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
	13 LICENSING-ACTION	ONE
	(LINK NAME: ARE.CONCERNED.WITH)	
2 EVENT	1 ALLEGATION	ONE
3 INSPECTION	1 ALLEGATION	ONE
4 LICENSE	1 ALLEGATION	ONE

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
5 EMPLOYEE(NRC)	1 ALLEGATION	MANY
6 PROVISION-AGREEMENT	1 ALLEGATION	ONE
7 GUIDE/STANDARD(NRC)	1 ALLEGATION	MANY
8 UNIT	1 ALLEGATION	MANY
9 FACILITY(NON-REACTOR)	1 ALLEGATION	MANY
10 PACKAGE	1 ALLEGATION	MANY
11 RADIOACTIVE-MATERIAL(ACCOUNT)	1 ALLEGATION	MANY
12 VENDOR	1 ALLEGATION	MANY
13 LICENSING-ACTION	1 ALLEGATION	MANY

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NRCVIEWB.DES DESIGN NUMBER: 85 17:39:10 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 BUILDING(NRC)	2 BUDGET	ONE
	(LINK NAME: IS.A.PART.OF)	
	5 PROVISION-REQUEST	MANY
	(LINK NAME: IS.ADDRESSED.IN)	
	6 BUILDING(NRC)+ORGANIZATION	MANY
	7 BUILDING(NRC)+PROVISION-AGREE	MANY
2 BUDGET	1 BUILDING(NRC)	MANY
3 ORGANIZATION	6 BUILDING(NRC)+ORGANIZATION	MANY
4 PROVISION-AGREEMENT	7 BUILDING(NRC)+PROVISION-AGREE	MANY
5 PROVISION-REQUEST	1 BUILDING(NRC)	ONE
6 BUILDING(NRC)+ORGANIZATION	1 BUILDING(NRC)	ONE
	3 ORGANIZATION	ONE
7 BUILDING(NRC)+PROVISION-AGREE	1 BUILDING(NRC)	ONE
	4 PROVISION-AGREEMENT	ONE

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NRCVIENC.DES DESIGN NUMBER: 86 17:39:11 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 COMMISSION-ORDER	3 INSPECTION	MANY
	(LINK NAME: CAN.RESULT.IN)	
	4 PACKAGE	MANY
	(LINK NAME: CAN.ADDRESS)	
	6 CASE(LEGAL)	ONE
	(LINK NAME: CAN.RESULT.IN)	
	8 COMMISSION-ORDER+EVENT	MANY
	9 COMMISSION-ORDER+LICENSE	MANY
	10 COMMISSION-ORDER+STATE	MANY
2 EVENT	8 COMMISSION-ORDER+EVENT	MANY
3 INSPECTION	1 COMMISSION-ORDER	ONE
4 PACKAGE	1 COMMISSION-ORDER	ONE
5 LICENSE	9 COMMISSION-ORDER+LICENSE	MANY
6 CASE(LESAL)	1 COMMISSION-ORDER	ONE
7 STATE	10 COMMISSION-ORDER+STATE	MANY

REPORT 001: DATA GROUP LINKS

	FROM DATA GROUP	TO DATA GROUP	LINK TYPE
8	COMMISSION-ORDER+EVENT	1 COMMISSION-ORDER	ONE
		2 EVENT	ONE
9	COMMISSION-ORDER+LICENSE	1 COMMISSION-ORDER	ONE
		5 LICENSE	ONE
10	COMMISSION-ORDER+STATE	1 COMMISSION-ORDER	ONE
		7 STATE	ONE

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NRCVIEWD.DES DESIGN NUMBER: 87 17:39:11 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 VIOLATION	2 EVENT (LINK NAME: CAN.RESULT.FROM)	ONE
	3 UNIT (LINK NAME: CAN.OCCUR.AT)	ONE
	4 FACILITY(NON-REACTOR) (LINK NAME: CAN.OCCUR.AT)	ONE
	5 SYSTEM (LINK NAME: CAN.OCCUR.AT)	ONE
	6 PACKAGE (LINK NAME: CAN.OCCUR.AT)	ONE
	7 RADIOACTIVE-MATERIAL(ACCOUNT) (LINK NAME: CAN.OCCUR.WITH)	ONE
	8 LICENSE (LINK NAME: CAN.OCCUR.WITH)	ONE
	9 LICENSING-ACTION (LINK NAME: CAN.RESULT.IN)	ONE
	10 REGULATION (LINK NAME: ARE.CITED.BY)	ONE
	11 CASE(LEGAL) (LINK NAME: CAN.RESULT.IN)	ONE
	12 G/L-ACCOUNT (LINK NAME: CAN.AFFECT)	ONE
2 EVENT	1 VIOLATION	MANY
3 UNIT	1 VIOLATION	MANY
4 FACILITY(NON-REACTOR)	1 VIOLATION	MANY
5 SYSTEM	1 VIOLATION	MANY

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
6 PACKAGE	1 VIOLATION	MANY
7 RADIOACTIVE-MATERIAL(ACCOUNT)	1 VIOLATION	MANY
8 LICENSE	1 VIOLATION	MANY
9 LICENSING-ACTION	1 VIOLATION	MANY
10 REGULATION	1 VIOLATION	MANY
11 CASE(LEGAL)	1 VIOLATION	ONE
12 G/L-ACCOUNT	1 VIOLATION	MANY

NRCVIEWE.DES DESIGN NUMBER: 88 17:39:12 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 EVENT	2 INSPECTION	MANY
	(LINK NAME: CAN.RESULT.IN)	
	3 UNIT	ONE
	(LINK NAME: CAN.OCCUR.AT)	
	4 FACILITY(NON-REACTOR)	ONE
	(LINK NAME: CAN.OCCUR.AT)	
	5 PACKAGE	ONE
	(LINK NAME: CAN.OCCUR.WITH)	
	6 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
	(LINK NAME: CAN.OCCUR.IN)	
	7 ISSUE(GENERAL)	ONE
	(LINK NAME: CAN.RESULT.IN)	
	8 LICENSEE-COMMITMENT	ONE
	(LINK NAME: CAN.RESULT.IN)	
	10 VENDOR	ONE
	(LINK NAME: CAN.OCCUR.WITH)	
	11 LICENSE	ONE
	(LINK NAME: CAN.OCCUR.AT)	
	12 EVENT+RESEARCH-PROGRAM	MANY
2 INSPECTION	1 EVENT	ONE
3 UNIT	1 EVENT	MANY
4 FACILITY(NON-REACTOR)	1 EVENT	MANY
5 PACKAGE	1 EVENT	MANY

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REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
6 RADIOACTIVE-MATERIAL(ACCOUNT)	1 EVENT	MANY
7 ISSUE(GENERAL)	1 EVENT	MANY
8 LICENSEE-COMMITMENT	1 EVENT	MANY
9 RESEARCH-PROGRAM	12 EVENT+RESEARCH-PROGRAM	MANY
10 VENDOR	1 EVENT	MANY
11 LICENSE	1 EVENT	MANY
12 EVENT+RESEARCH-PROGRAM	1 EVENT	ONE
	9 RESEARCH-PROGRAM	ONE

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NRCVIEWF.DES DESIGN NUMBER: 09 17:39:13 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 BUDGET	2 EMPLOYEE(NRC) (LINK NAME: CONSISTS.OF)	MANY
2 EMPLOYEE(NRC)	1 BUDGET	ONE

DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWS.DES DESIGN NUMBER: 90 17:39:13 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 SYSTEM	2 EVENT	MANY
	(LINK NAME: CAN.GENERATE)	
	3 INSPECTION	MANY
	(LINK NAME: CAN.UNDERGO)	
	4 UNIT	ONE
	(LINK NAME: CONSISTS.OF)	
	5 FACILITY(NON-REACTOR)	ONE
	(LINK NAME: CONSISTS.OF)	
	6 ISSUE(GENERAL)	ONE
	(LINK NAME: IS.ADDRESSED.BY)	
	7 GUIDE/STANDARD(NRC)	MANY
	(LINK NAME: IS.ADDRESSED.BY)	
	8 INTERAGENCY-AGREEMENT(TECH)	MANY
	(LINK NAME: IS.ADDRESSED.BY)	
	9 RESEARCH-PROGRAM	MANY
	(LINK NAME: IS.ADDRESSED.BY)	
2 EVENT	1 SYSTEM	ONE
3 INSPECTION	1 SYSTEM	ONE
4 UNIT	1 SYSTEM	MANY
5 FACILITY(NON-REACTOR)	1 SYSTEM	MANY
6 ISSUE(GENERAL)	1 SYSTEM	MANY

DDI - DATA DESIGNER 2.5A PAGE: 1- 2

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
7 GUIDE/STANDARD(NRC)	1 SYSTEM	ONE
8 INTERAGENCY-AGREEMENT(TECH)	1 SYSTEM	ONE
9 RESEARCH-PROGRAM	1 SYSTEM	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWH.DES DESIGN NUMBER: 91 17:39:14 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 ISSUE(GENERAL)	2 VIOLATION	MANY
	(LINK NAME: CAN.RESULT.FROM)	
	3 VENDOR	MANY
	(LINK NAME: CAN.ADDRESS)	
	4 RADIOACTIVE-MATERIAL(ACCOUNT)	MANY
	(LINK NAME: CAN.RESULT.FROM)	
	5 PACKAGE	MANY
	(LINK NAME: CAN.ADDRESS)	
	6 INTERAGENCY-AGREEMENT(TECH)	ONE
	(LINK NAME: CAN.RESULT.FROM)	
	7 RESEARCH-PROGRAM	ONE
	(LINK NAME: IS.STUDIED.IN)	
2 VIOLATION	1 ISSUE(GENERAL)	ONE
3 VENDOR	1 ISSUE(GENERAL)	ONE
4 RADIOACTIVE-MATERIAL(ACCOUNT)	1 ISSUE(GENERAL)	ONE
5 PACKAGE	1 ISSUE(GENERAL)	ONE
6 INTERAGENCY-AGREEMENT(TECH)	1 ISSUE(GENERAL)	MANY
7 RESEARCH-PROGRAM	1 ISSUE(GENERAL)	MANY

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWI.DES DESIGN NUMBER: 92 17:39:14 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 INSPECTION	2 UNIT	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	3 FACILITY(NON-REACTOR)	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	4 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	5 PACKAGE	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	6 ISSUE(GENERAL)	ONE
	(LINK NAME: CAN.RESULT.IN)	
	7 INTERAGENCY-AGREEMENT(TECH)	ONE
	(LINK NAME: CAN.RESULT.IN)	
	8 RESEARCH-PROGRAM	ONE
	(LINK NAME: CAN.RESULT.IN)	
	9 LICENSE	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	10 LICENSEE-COMMITMENT	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
2 UNIT	1 INSPECTION	MANY
3 FACILITY(NON-REACTOR)	1 INSPECTION	MANY
4 RADIOACTIVE-MATERIAL(ACCOUNT)	1 INSPECTION	MANY
5 PACKAGE	1 INSPECTION	MANY

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DDI - DATA DESIGNER 2.5A PAGE: 1- 2

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
6 ISSUE(GENERAL)	1 INSPECTION	MANY
7 INTERAGENCY-AGREEMENT(TECH)	1 INSPECTION	MANY
8 RESEARCH-PROGRAM	1 INSPECTION	MANY
9 LICENSE	1 INSPECTION	MANY
10 LICENSEE-COMMITMENT	1 INSPECTION	MANY

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWAA.DES DESIGN NUMBER: 93 17:39:15 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 CASE(LEGAL)	2 TRAVEL	MANY
	(LINK NAME: CAN.RESULT.IN)	
	3 UNION	ONE
	(LINK NAME: CAN.INVOLVE)	
	4 PROVISION-AGREEMENT	ONE
	(LINK NAME: CAN.INVOLVE)	
	5 PATENT	ONE
	(LINK NAME: CAN.INVOLVE)	
	6 LICENSE	ONE
	(LINK NAME: CAN.INVOLVE)	
2 TRAVEL	1 CASE(LEGAL)	ONE
3 UNION	1 CASE(LEGAL)	ONE
4 PROVISION-AGREEMENT	1 CASE(LEGAL)	ONE
5 PATENT	1 CASE(LEGAL)	ONE
6 LICENSE	1 CASE(LEGAL)	MANY

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWBB.DES DESIGN NUMBER: 94 17:39:16 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 LICENSE	2 UNIT	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	3 FACILITY(NON-REACTOR)	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	4 PACKAGE	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	5 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	6 LICENSEE-COMMITMENT	MANY
	(LINK NAME: IS.CONCERNED.WITH)	
	7 LICENSING-ACTION	MANY
	(LINK NAME: IS.CONCERNED.WITH)	
	8 REACTOR-OPERATOR	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	10 FEE	ONE
	(LINK NAME: CAN.GENERATE)	
	11 PROVISION-AGREEMENT	MANY
	(LINK NAME: CAN.RESULT.IN)	
	12 REGULATION	MANY
	(LINK NAME: IS.GOVERNED.BY)	
	13 SITE	ONE
	(LINK NAME: IS.CONCERNED.WITH)	
	14 LICENSE+STATE	MANY
2 UNIT	1 LICENSE	ONE
3 FACILITY(NON-REACTOR)	1 LICENSE	ONE
4 PACKAGE	1 LICENSE	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 2

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
5 RADIOACTIVE-MATERIAL(ACCOUNT)	1 LICENSE	ONE
6 LICENSEE-COMMITMENT	1 LICENSE	ONE
7 LICENSING-ACTION	1 LICENSE	ONE
8 REACTOR-OPERATOR	1 LICENSE	ONE
9 STATE	14 LICENSE+STATE	MANY
10 FEE	1 LICENSE	ONE
11 PROVISION-AGREEMENT	1 LICENSE	ONE
12 REGULATION	1 LICENSE	ONE
13 SITE	1 LICENSE	ONE

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REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
14 LICENSE+STATE	1 LICENSE	ONE
	9 STATE	ONE

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NRCVIEWCC.DES DESIGN NUMBER: 95 17:39:17 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 LICENSING-ACTION	2 INSPECTION	MANY
	(LINK NAME: CAN.REQUIRE)	
	3 VIOLATION	ONE
	(LINK NAME: CAN.RESULT.FROM)	
2 INSPECTION	1 LICENSING-ACTION	ONE
3 VIOLATION	1 LICENSING-ACTION	MANY

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWDD.DES DESIGN NUMBER: 96 17:39:17 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 REACTOR-OPERATOR	2 FEE (LINK NAME: PAYS.A)	MANY
	3 UNIT (LINK NAME: WORKS.AT)	ONE
2 FEE	1 REACTOR-OPERATOR	ONE
3 UNIT	1 REACTOR-OPERATOR	MANY

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NRCVIEWEE.DES DESIGN NUMBER: 97 17:39:18 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 ORGANIZATION	2 EMPLOYEE(NRC) (LINK NAME: CONSISTS.OF)	MANY
2 EMPLOYEE(NRC)	1 ORGANIZATION	ONE

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NRCVIEWFF.DES DESIGN NUMBER: 98 17:39:18 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 EMPLOYEE(NRC)	2 EXPOSURE (LINK NAME: CAN.RECEIVE)	MANY
	3 G/L-ACCOUNT (LINK NAME: IS.RECORDED.BY)	MANY
2 EXPOSURE	1 EMPLOYEE(NRC)	ONE
3 G/L-ACCOUNT	1 EMPLOYEE(NRC)	ONE

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NRCVIEW66.DES DESIGN NUMBER: 99 17:39:18 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 PROVISION-AGREEMENT	2 G/L-ACCOUNT (LINK NAME: IS.RECORDED.IN)	ONE
	3 FEE (LINK NAME: CAN.GENERATE)	ONE
* G/L-ACCOUNT	1 PROVISION-AGREEMENT	MANY
3 FEE	1 PROVISION-AGREEMENT	ONE

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DDI - DATA DESIGNER 2.5A PAGE: 1- 1

NRCVIEWHH.DES DESIGN NUMBER: 100 17:39:19 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 PACKAGE	2 GUIDE/STANDARD(NRC)	MANY
	(LINK NAME: IS.ADDRESSED.BY)	
	3 SITE	ONE
	(LINK NAME: IS.STORED.AT)	
	5 RESEARCH-PROGRAM	ONE
	(LINK NAME: IS.STUDIED.IN)	
	9 PACKAGE+VENDOR	MANY
2 GUIDE/STANDARD(NRC)	1 PACKAGE	ONE
3 SITE	1 PACKAGE	MANY
	6 RADIOACTIVE-MATERIAL(ACCOUNT)	MANY
4 VENDOR	9 PACKAGE+VENDOR	MANY
5 RESEARCH-PROGRAM	1 PACKAGE	MANY
6 RADIOACTIVE-MATERIAL(ACCOUNT)	3 SITE	ONE
	(LINK NAME: OCCURS.AT)	
	8 INTERNATIONAL-AGREEMENT	MANY
	(LINK NAME: IS.GOVERNED.BY)	
	10 RADIOACTIVE-MATERIAL(ACCOUNT)+STATE	MANY
7 STATE	10 RADIOACTIVE-MATERIAL(ACCOUNT)+STATE	MANY

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REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
8 INTERNATIONAL-AGREEMENT	6 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
9 PACKAGE+VENDOR	1 PACKAGE	ONE
	4 VENDOR	ONE
10 RADIOACTIVE-MATERIAL(ACCOUNT)+ STATE	6 RADIOACTIVE-MATERIAL(ACCOUNT)	ONE
	7 STATE	ONE

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NRCVIEWII.DES DESIGN NUMBER: 101 17:39:19 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 GUIDE/STANDARD(NRC)	2 UNIT	ONE
	(LINK NAME: DESCRIBES)	
	3 FACILITY(NON-REACTOR)	ONE
	(LINK NAME: DESCRIBES)	
	6 GUIDE/STANDARD(NRC)+RESEARCH-PRO	MANY
	7 GUIDE/STANDARD(NRC)+ INTERAGENCY-AGREEMENT(TECH)	MANY
2 UNIT	1 GUIDE/STANDARD(NRC)	MANY
3 FACILITY(NON-REACTOR)	1 GUIDE/STANDARD(NRC)	MANY
4 RESEARCH-PROGRAM	6 GUIDE/STANDARD(NRC)+RESEARCH-PRO	MANY
5 INTERAGENCY-AGREEMENT(TECH)	7 GUIDE/STANDARD(NRC)+ INTERAGENCY-AGREEMENT(TECH)	MANY
6 GUIDE/STANDARD(NRC)+RESEARCH-PRO	1 GUIDE/STANDARD(NRC)	ONE
	4 RESEARCH-PROGRAM	ONE
7 GUIDE/STANDARD(NRC)+ INTERAGENCY-AGREEMENT(TECH)	1 GUIDE/STANDARD(NRC)	ONE
	5 INTERAGENCY-AGREEMENT(TECH)	ONE

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NRCVIEWJJ.DES DESIGN NUMBER: 102 17:39:20 - 05/31/85

REPORT 001: DATA GROUP LINKS

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FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 RESEARCH-PROGRAM	2 SITE (LINK NAME: MAY.STUDY)	ONE
	3 SYSTEM (LINK NAME: MAY.STUDY)	ONE
	4 VENDOR (LINK NAME: MAY.STUDY)	MANY
2 SITE	1 RESEARCH-PROGRAM	ONE
	5 INTERAGENCY-AGREEMENT(TECH)	ONE
3 SYSTEM	1 RESEARCH-PROGRAM	ONE
	5 INTERAGENCY-AGREEMENT(TECH)	MANY
4 VENDOR	1 RESEARCH-PROGRAM	ONE
5 INTERAGENCY-AGREEMENT(TECH)	2 SITE (LINK NAME: MAY.STUDY)	ONE
	3 SYSTEM (LINK NAME: MAY.STUDY)	ONE
	4 VENDOR (LINK NAME: MAY.STUDY)	MANY

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NRCVIEWKK.DES DESIGN NUMBER: 103 17:39:20 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 FACILITY(NON-REACTOR)	4 FACILITY(NON-REACTOR)+STATE	MANY
2 STATE	4 FACILITY(NON-REACTOR)+STATE	MANY
	5 UNIT+STATE	MANY
3 UNIT	5 UNIT+STATE	MANY
4 FACILITY(NON-REACTOR)+STATE	1 FACILITY(NON-REACTOR)	ONE
	2 STATE	ONE
5 UNIT+STATE	2 STATE	ONE
	3 UNIT	ONE

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NRCVIEWLL.DES DESIGN NUMBER: 104 , 17:39:21 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 STATE	3 PACKAGE+STATE	MANY
2 PACKAGE	3 PACKAGE+STATE	MANY
3 PACKAGE+STATE	1 STATE	ONE
	2 PACKAGE	ONE

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NRCVIEWMM.DES DESIGN NUMBER: 105 17:39:21 - 05/31/85

REPORT 001: DATA GROUP LINKS

FROM DATA GROUP	TO DATA GROUP	LINK TYPE
1 VENDOR	2 VIOLATION (LINK NAME: MAY.BE.CITED.FOR)	MANY
	3 INSPECTION (LINK NAME: MAY.UNDERGO)	MANY
2 VIOLATION	1 VENDOR	ONE
3 INSPECTION	1 VENDOR	ONE

ENFORCEMENT SENSITIVE

E. RELATIONSHIP CROSS-REFERENCE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
APPEAL	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
DECISION	LEGAL-DATABASE
HEARING	LEGAL-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
BACKFIT ISSUE	ISSUES-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BULLETIN	ISSUES-DATABASE
GENERIC LETTER	ISSUES-DATABASE
GENERIC/US ISSUE	ISSUES-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
BUDGET	FIN/ACCTG-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
DECISION UNIT	FIN/ACCTG-DATABASE
EMPLOYEE (NRC)	PERSONNEL-DATABASE
G/L ACCOUNT	FIN/ACCTG-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUDGET	FIN/ACCTG-DATABASE
EQUIPMENT (NRC TECHNICAL)	BLDG/PRPTY-DATABASE
ORGANIZATION	ORGANZTN-DATABASE
PHYSICAL SECURITY (NRC)	BLDG/PRPTY-DATABASE
PROPERTY (NRC)	BLDG/PRPTY-DATABASE
PROVISION AGREEMENT	PROCUREMENT-DATABASE
PROVISION REQUEST	PROCUREMENT-DATABASE
VISITOR	BLDG/PRPTY-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
BULLETIN	ISSUES-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BACKFIT ISSUE	ISSUES-DATABASE
GENERIC/US ISSUE	ISSUES-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
CASE (LEGAL)	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
COMMISSION ORDER	COMMISSION-DATABASE
HEARING	LEGAL-DATABASE
LICENSE	LICENSE-DATABASE
PATENT	SPECIAL PURPOSE ENTITIES
PROVISION AGREEMENT	PROCUREMENT-DATABASE
TRAVEL	FIN/ACCTG-DATABASE
UNION	SPECIAL PURPOSE ENTITIES
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
COMMISSION ORDER	COMMISSION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
CASE (LEGAL)	LEGAL-DATABASE
COMMISSION PAPER	COMMISSION-DATABASE
EVENT	EVENTS-DATABASE
INSPECTION	INSPECTION-DATABASE
LICENSE	LICENSE-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
STATE	STATE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
COMMISSION PAPER	COMMISSION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
COMMISSION ORDER	COMMISSION-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
COMPONENT	HARDWARE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
DEFICIENCY	HARDWARE-DATABASE
SYSTEM	HARDWARE-DATABASE
TEST	HARDWARE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
CONTRACTOR/PROVIDER (NRC)	PROCUREMENT-DATABASE

RELATED ENTITIES	ENTITY LOCATION
PROVISION AGREEMENT	PROCUREMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
DECISION	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
APPEAL	LEGAL-DATABASE
HEARING	LEGAL-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
DECISION UNIT	FIN/ACCTG-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUDGET	FIN/ACCTG-DATABASE
PLANNED ACCOMPLISHMENT	FIN/ACCTG-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
DEFICIENCY	HARDWARE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
COMPONENT	HARDWARE-DATABASE
STRUCTURE	HARDWARE-DATABASE
SYSTEM	HARDWARE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
DEMOGRAPHICS	STATE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
STATE	STATE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
DESIGN	VENDOR-DATABASE

RELATED ENTITIES	ENTITY LOCATION
TOPICAL REPORT	VENDOR-DATABASE
VENDOR	VENDOR-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
DEVIATION	ENFORCEMENT-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ENFORCEMENT ACTION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
ECONOMIC INFORMATION	STATE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
POWER UTILITY	STATE-DATABASE
STATE	STATE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
EMPLOYEE (NRC)	PERSONNEL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
BUDGET	FIN/ACCTG-DATABASE
EXPOSURE	EVENTS-DATABASE
G/L ACCOUNT	FIN/ACCTG-DATABASE
GRIEVANCE	PERSONNEL-DATABASE
ORGANIZATION	ORGANZTN-DATABASE
PERSONNEL ACTION	PERSONNEL-DATABASE
RECRUIT/APPLICANT	PERSONNEL-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
ENFORCEMENT ACTION	ENFORCEMENT-DATABASE

RELATED ENTITIES	ENTITY LOCATION
DEVIATION	ENFORCEMENT-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
EQUIPMENT (NRC TECHNICAL)	BLDG/PRPTY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
PROPERTY (NRC)	BLDG/PRPTY-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
EVENT	EVENTS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
COMMISSION ORDER	COMMISSION-DATABASE
EXPOSURE	EVENTS-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
INSPECTION	INSPECTION-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
LICENSE	LICENSE-DATABASE
LICENSEE COMMITMENT	LICSNG ACTION-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
RELEASE	EVENTS-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
SYSTEM	HARDWARE-DATABASE
THREAT	EVENTS-DATABASE
UNIT	SITE-DATABASE
VENDOR	VENDOR-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
EXAMINATION (OPERATOR)	OPERATOR-DATABASE

RELATED ENTITIES	ENTITY LOCATION
REACTOR OPERATOR	OPERATOR-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
EXPOSURE	EVENTS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EMPLOYEE (NRC)	PERSONNEL-DATABASE
EVENT	EVENTS-DATABASE
RELEASE	EVENTS-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
FACILITY (NON-REACTOR)	SITE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
EVENT	EVENTS-DATABASE
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INSPECTION	INSPECTION-DATABASE
LICENSE	LICENSE-DATABASE
SITE	SITE-DATABASE
STATE	STATE-DATABASE
SYSTEM	HARDWARE-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
FUEL ASSEMBLY	RADCTVE MATRLS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
SHIPMENT	RADCTVE MATRLS-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
G/L ACCOUNT	FIN/ACCTG-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUDGET	FIN/ACCTG-DATABASE
EMPLOYEE (NRC)	PERSONNEL-DATABASE
PROVISION AGREEMENT	PROCUREMENT-DATABASE
TRAVEL	FIN/ACCTG-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
GENERIC LETTER	ISSUES-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BACKFIT ISSUE	ISSUES-DATABASE
GENERIC/US ISSUE	ISSUES-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
GENERIC/US ISSUE	ISSUES-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BACKFIT ISSUE	ISSUES-DATABASE
BULLETIN	ISSUES-DATABASE
GENERIC LETTER	ISSUES-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
GRIEVANCE	PERSONNEL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EMPLOYEE (NRC)	PERSONNEL-DATABASE
RECRUIT/APPLICANT	PERSONNEL-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
INTERAGNCY AGRMNT-TECH	RESEARCH-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
REGULATION	REGULATORY-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
SYSTEM	HARDWARE-DATABASE
UNIT	SITE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
HEARING	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
APPEAL	LEGAL-DATABASE
CASE (LEGAL)	LEGAL-DATABASE
DECISION	LEGAL-DATABASE
INTERVENOR	LEGAL-DATABASE
PETITION	LEGAL-DATABASE
PLEADING	LEGAL-DATABASE
WITNESS	LEGAL-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INSPECTION	INSPECTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
COMMISSION ORDER	COMMISSION-DATABASE
EVENT	EVENTS-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
INSPECTION MODULE	INSPECTION-DATABASE
INTERAGNCY AGRMNT-TECH	RESEARCH-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
LICENSE	LICENSE-DATABASE
LICENSEE COMMITMENT	LICSNG ACTION-DATABASE
LICENSING ACTION	LICSNG ACTION-DATABASE
OUTSTANDING ITEM (INSPECTION)	INSPECTION-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
SYSTEM	HARDWARE-DATABASE
UNIT	SITE-DATABASE
VENDOR	VENDOR-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INSPECTION MODULE	INSPECTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
INSPECTION	INSPECTION-DATABASE
INSPECTION PROGRAM	INSPECTION-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INSPECTION PROGRAM	INSPECTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
INSPECTION MODULE	INSPECTION-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INTERAGNCY AGRMNT-TECH	RESEARCH-DATABASE

RELATED ENTITIES	ENTITY LOCATION
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INSPECTION	INSPECTION-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
SYSTEM	HARDWARE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INTERNATIONAL AGREEMENT	REGULATORY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
REGULATION	REGULATORY-DATABASE
STATUTE	REGULATORY-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INTERVENOR	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
HEARING	LEGAL-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
INVESTIGATION (CASE)	ALLEGATION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
ISSUE (GENERAL)	ISSUES-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BACKFIT ISSUE	ISSUES-DATABASE
BULLETIN	ISSUES-DATABASE
EVENT	EVENTS-DATABASE
GENERIC LETTER	ISSUES-DATABASE
GENERIC/US ISSUE	ISSUES-DATABASE
INSPECTION	INSPECTION-DATABASE
INTERAGNCY AGRMNT-TECH	RESEARCH-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
SYSTEM	HARDWARE-DATABASE
VENDOR	VENDOR-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSE	LICENSE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
CASE (LEGAL)	LEGAL-DATABASE
COMMISSION ORDER	COMMISSION-DATABASE
EVENT	EVENTS-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
FEE	SPECIAL PURPOSE ENTITIES
INSPECTION	INSPECTION-DATABASE
LICENSE APPLICATION	LICENSE-DATABASE
LICENSEE	LICENSE-DATABASE
LICENSEE COMMITMENT	LICSNG ACTION-DATABASE
LICENSING ACTION	LICSNG ACTION-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
PROVISION AGREEMENT	PROCUREMENT-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
REACTOR OPERATOR	OPERATOR-DATABASE
REGULATION	REGULATORY-DATABASE
SITE	SITE-DATABASE
STATE	STATE-DATABASE
TECH SPEC/LIC COND	LICENSE-DATABASE
UNIT	SITE-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSE APPLICANT	LICENSE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
LICENSE APPLICATION	LICENSE-DATABASE
LICENSEE	LICENSE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSE APPLICATION	LICENSE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
LICENSE	LICENSE-DATABASE
LICENSE APPLICANT	LICENSE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSEE	LICENSE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
LICENSE	LICENSE-DATABASE
LICENSE APPLICANT	LICENSE-DATABASE
LICENSEE PLAN	LICENSE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSEE COMMITMENT	LICSNG ACTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EVENT	EVENTS-DATABASE
INSPECTION	INSPECTION-DATABASE
LICENSE	LICENSE-DATABASE
LICENSING ACTION	LICSNG ACTION-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSEE PLAN	LICENSE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
LICENSEE	LICENSE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
LICENSING ACTION	LICSNG ACTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
INSPECTION	INSPECTION-DATABASE
LICENSE	LICENSE-DATABASE
LICENSEE COMMITMENT	LICSNG ACTION-DATABASE
OPEN ITEM (LICENSING)	LICSNG ACTION-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
OPEN ITEM (LICENSING)	LICSNG ACTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
LICENSING ACTION	LICSNG ACTION-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
ORGANIZATION	ORGANZTN-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
EMPLOYEE (NRC)	PERSONNEL-DATABASE
POSITION	ORGANZTN-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
OUTSTANDING ITEM (INSPECTION)	INSPECTION-DATABASE

RELATED ENTITIES	ENTITY LOCATION
INSPECTION	INSPECTION-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PACKAGE	RADCTVE MATRLS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
COMMISSION ORDER	COMMISSION-DATABASE
EVENT	EVENTS-DATABASE
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INSPECTION	INSPECTION-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
LICENSE	LICENSE-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
SHIPMENT	RADCTVE MATRLS-DATABASE
SITE	SITE-DATABASE
STATE	STATE-DATABASE
VENDOR	VENDOR-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PERSONNEL ACTION	PERSONNEL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EMPLOYEE (NRC)	PERSONNEL-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PETITION	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
HEARING	LEGAL-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PHYSICAL SECURITY (NRC)	BLDG/PRPTY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
PROPERTY (NRC)	BLDG/PRPTY-DATABASE
VISITOR	BLDG/PRPTY-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PLANNED ACCOMPLISHMENT	FIN/ACCTG-DATABASE

RELATED ENTITIES	ENTITY LOCATION
DECISION UNIT	FIN/ACCTG-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PLEADING	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
HEARING	LEGAL-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
POSITION	ORGANZTN-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ORGANIZATION	ORGANZTN-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
POWER UTILITY	STATE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ECONOMIC INFORMATION	STATE-DATABASE
PUBLIC UTILITY COMMISSION	STATE-DATABASE
STATE	STATE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PROPERTY (NRC)	BLDG/PRPTY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
EQUIPMENT (NRC TECHNICAL)	BLDG/PRPTY-DATABASE
PHYSICAL SECURITY (NRC)	BLDG/PRPTY-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PROVISION AGREEMENT	PROCUREMENT-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
BUILDING (NRC)	BLDG/PRPTY-DATABASE
CASE (LEGAL)	LEGAL-DATABASE
CONTRACTOR/PROVIDER (NRC)	PROCUREMENT-DATABASE
FEE	SPECIAL PURPOSE ENTITIES
G/L ACCOUNT	FIN/ACCTG-DATABASE
LICENSE	LICENSE-DATABASE
PROVISION REQUEST	PROCUREMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PROVISION REQUEST	PROCUREMENT-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
PROVISION AGREEMENT	PROCUREMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
PUBLIC UTILITY COMMISSION	STATE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
POWER UTILITY	STATE-DATABASE
STATE	STATE-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
EVENT	EVENTS-DATABASE
FUEL ASSEMBLY	RADCTVE MATRLS-DATABASE
INSPECTION	INSPECTION-DATABASE
INTERNATIONAL AGREEMENT	REGULATORY-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
LICENSE	LICENSE-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
SHIPMENT	RADCTVE MATRLS-DATABASE
SITE	SITE-DATABASE
STATE	STATE-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
REACTOR OPERATOR	OPERATOR-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EXAMINATION (OPERATOR)	OPERATOR-DATABASE
FEE	SPECIAL PURPOSE ENTITIES
LICENSE	LICENSE-DATABASE
UNIT	SITE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
RECRUIT/APPLICANT	PERSONNEL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EMPLOYEE (NRC)	PERSONNEL-DATABASE
GRIEVANCE	PERSONNEL-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
REGULATION	REGULATORY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INTERNATIONAL AGREEMENT	REGULATORY-DATABASE
LICENSE	LICENSE-DATABASE
STATUTE	REGULATORY-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
RELEASE	EVENTS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EVENT	EVENTS-DATABASE
EXPOSURE	EVENTS-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
RESEARCH PROGRAM	RESEARCH-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EVENT	EVENTS-DATABASE
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INSPECTION	INSPECTION-DATABASE
INTERAGNCY AGRMNT-TECH	RESEARCH-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
SITE	SITE-DATABASE
SYSTEM	HARDWARE-DATABASE
VENDOR	VENDOR-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
SHIPMENT	RADCTVE MATRLS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
FUEL ASSEMBLY	RADCTVE MATRLS-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
SITE	SITE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
FACILITY (NON-REACTOR)	SITE-DATABASE
LICENSE	LICENSE-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
UNIT	SITE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
STATE	STATE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
COMMISSION ORDER	COMMISSION-DATABASE
DEMOGRAPHICS	STATE-DATABASE
ECONOMIC INFORMATION	STATE-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
LICENSE	LICENSE-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
POWER UTILITY	STATE-DATABASE
PUBLIC UTILITY COMMISSION	STATE-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
UNIT	SITE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
STATUTE	REGULATORY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
INTERNATIONAL AGREEMENT	REGULATORY-DATABASE
REGULATION	REGULATORY-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
STRUCTURE	HARDWARE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
DEFICIENCY	HARDWARE-DATABASE
SYSTEM	HARDWARE-DATABASE
TEST	HARDWARE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
SYSTEM	HARDWARE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
COMPONENT	HARDWARE-DATABASE
DEFICIENCY	HARDWARE-DATABASE
EVENT	EVENTS-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INSPECTION	INSPECTION-DATABASE
INTERAGNCY AGRMNT-TECH	RESEARCH-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
STRUCTURE	HARDWARE-DATABASE
TEST	HARDWARE-DATABASE
UNIT	SITE-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
TECH SPEC/LIC COND	LICENSE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
LICENSE	LICENSE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
TEST	HARDWARE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
COMPONENT	HARDWARE-DATABASE
STRUCTURE	HARDWARE-DATABASE
SYSTEM	HARDWARE-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
THREAT	EVENTS-DATABASE

RELATED ENTITIES	ENTITY LOCATION
EVENT	EVENTS-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
TOPICAL REPORT	VENDOR-DATABASE

RELATED ENTITIES	ENTITY LOCATION
DESIGN	VENDOR-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
TRAVEL	FIN/ACCTG-DATABASE

RELATED ENTITIES	ENTITY LOCATION
CASE (LEGAL)	LEGAL-DATABASE
G/L ACCOUNT	FIN/ACCTG-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
UNIT	SITE-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
EVENT	EVENTS-DATABASE
GUIDE/STANDARD (NRC)	REGULATORY-DATABASE
INSPECTION	INSPECTION-DATABASE
LICENSE	LICENSE-DATABASE
REACTOR OPERATOR	OPERATOR-DATABASE
SITE	SITE-DATABASE
STATE	STATE-DATABASE
SYSTEM	HARDWARE-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
VENDOR	VENDOR-DATABASE

RELATED ENTITIES	ENTITY LOCATION
ALLEGATION	ALLEGATION-DATABASE
DESIGN	VENDOR-DATABASE
EVENT	EVENTS-DATABASE
INSPECTION	INSPECTION-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RESEARCH PROGRAM	RESEARCH-DATABASE
VIOLATION	ENFORCEMENT-DATABASE

DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
VIOLATION	ENFORCEMENT-DATABASE

RELATED ENTITIES	ENTITY LOCATION
CASE (LEGAL)	LEGAL-DATABASE
ENFORCEMENT ACTION	ENFORCEMENT-DATABASE
EVENT	EVENTS-DATABASE
FACILITY (NON-REACTOR)	SITE-DATABASE
G/L ACCOUNT	FIN/ACCTG-DATABASE
ISSUE (GENERAL)	ISSUES-DATABASE
LICENSE	LICENSE-DATABASE
LICENSING ACTION	LICSNG ACTION-DATABASE
PACKAGE	RADCTVE MATRLS-DATABASE
RADIOACTIVE MATERIAL (ACCT)	RADCTVE MATRLS-DATABASE
REGULATION	REGULATORY-DATABASE
SYSTEM	HARDWARE-DATABASE
UNIT	SITE-DATABASE
VENDOR	VENDOR-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
VISITOR	BLDG/PRPTY-DATABASE

RELATED ENTITIES	ENTITY LOCATION
BUILDING (NRC)	BLDG/PRPTY-DATABASE
PHYSICAL SECURITY (NRC)	BLDG/PRPTY-DATABASE

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DATA ENTITY RELATIONSHIP CROSS-REFERENCE

ENTITY	ENTITY LOCATION
WITNESS	LEGAL-DATABASE

RELATED ENTITIES	ENTITY LOCATION
HEARING	LEGAL-DATABASE

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APPENDIX A

ORIGINAL DATA ENTITY CLUSTERS

EVENTS
- EVENT
- RELEASE
- THREAT

INSPECTION
- INSPECTION PROGRAM
- INSPECTION MODULE
- INSPECTION
- OUTSTANDING ITEM (INSPECTION)
- DRILL
- VIOLATION
- DEVIATION
- ENFORCEMENT ACTION
- OPEN "TMI" ITEM

SITE
- SITE
- UNIT
- FACILITY (NON-REACTOR)
- LICENSEE PLAN
- BULLETIN
- GENERIC LETTER

NUCLEAR HARDWARE
- SYSTEM
- COMPONENT
- STRUCTURE
- PACKAGE
- VENDOR
- DESIGN
- TOPICAL REPORT
- DEFICIENCY
- TEST
- EQUIPMENT (NRC TECHNICAL)
- PATENT

RADIOACTIVE MATERIALS
- SHIPMENT
- RADIOACTIVE MATERIAL (ACCOUNTABILITY)
- FUEL ASSEMBLY

ISSUES
- GENERIC ISSUE
- BACKFIT ISSUE
- ISSUE (GENERAL)
- COST STANDARDS
- UNRESOLVED SAFETY ISSUE

LICENSE
- LICENSE
- LICENSEE
- TECHNICAL SPECIFICATION/LICENSE CONDITION
- LICENSE APPLICATION
- LICENSE APPLICANT
- EXPOSURE
- LICENSEE PERFORMANCE EVALUATION

LICENSING ACTION
- LICENSE COMMITMENT
- OPEN ITEM (LICENSING)
- LICENSING ACTION

REGULATORY
- STATUTE
- INTERNATIONAL AGREEMENT
- REGULATION
- GUIDE/STANDARD (NRC)

INVESTIGATION
- ALLEGATION
- INVESTIGATION (CASE)

RESEARCH
- INTERAGENCY AGREEMENT (TECHNICAL)
- RESEARCH PROGRAM

REACTOR OPERATOR/EXAMINATION
- EXAMINATION (OPERATOR)
- REACTOR OPERATOR

LEGAL
- CASE (LEGAL)
- HEARING
- PLEADING
- PETITION
- APPEAL
- DECISION
- WITNESS
- INTERVENOR

STATE
- STATE
- POWER UTILITY
- PUBLIC UTILITY COMMISSION
- ECONOMIC INFORMATION
- DEMOGRAPHICS

BUDGET
- BUDGET
- DECISION UNIT
- PLANNED ACCOMPLISHMENT
- ORGANIZATION
- PROJECT
- G/L ACCOUNT
- FEE
- ADVISOR/CONSULTANT/EXPERT

COMMISSION ORDER/PAPER
- COMMISSION ORDER
- COMMISSION PAPER

COMMITTEE/MEETING
- COMMITTEE
- MEETING
- INQUIRY
- FOIA REQUEST
- WORK ITEM

BUILDING/PROPERTY
- BUILDING (NRC)
- PROPERTY (NRC)
- PHYSICAL SECURITY (NRC)
- VISITOR

EMPLOYEE
- EMPLOYEE (NRC)
- TRAINING
- TRAVEL
- POSITION
- RECRUIT/APPLICANT
- PERSONNEL ACTION
- UNION
- GRIEVANCE

PROCUREMENT
- PROCUREMENT ACTION
- CONTRACTOR (NRC)
- GRANT
- INTERAGENCY AGREEMENT
- COOPERATIVE AGREEMENT

DOCUMENT
- DOCUMENT

SCIENTIFIC CODE/DATA
- SCIENTIFIC CODE/DATA

CDH INDEX
- CDH INDEX (HELP MENU)

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AFFINITY ANALYSIS PARAMETER VALUES

Computerized affinity analysis provides an approximation of logical clusters. The computer analysis provides information on which entities are used together but not how the entities are used together. Therefore, some manual adjustment was necessary. The affinity values or parameters used during the initial affinity analysis are listed below along with a brief description:

VALUE	AFFINITY DESCRIPTION
55	Minimum New Group Affinity. The threshold ratio used for clustering two entities together.
69	Minimum Merge Group Affinity. The threshold ratio for merging two clusters into one.
60	Minimum Add Group Affinity. The threshold ratio for adding an entity to an existing cluster.
40	Minimum Usable Affinity. Entities will not be clustered with affinities below this value.

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APPENDIX B

SUMMARY OF CHANGES TO DATA ENTITY DICTIONARY AND ENTERPRISE MODEL

Addenda to the Data Entity Dictionary and the Enterprise Model were issued as a result of changes to the data entities during the data modeling process. The following summarizes those changes.

A. SUMMARY OF CHANGES TO ENTITIES

FROM:	TO:	REASON
Contractor (NRC)	Contractor/ Provider	Covers both contractors and non-paid providers such as grantees.
Cooperative Agreement	Provision Agreement	"Type" of provision agreement.
Generic Issue	Generic Issue/ Unresolved Safety Issue	Both are "types" of generic issues.
Grant	Provision Agreement	"Type" of provision agreement.
Interagency Agreement	Provision Agreement	"Type" of provision agreement.
Procurement Action	Provision Agreement Provision Request	Split into two entities to cover both the request for goods and services and the resulting agreement.
Unresolved Safety Issue	Generic Issue/ Unresolved Safety Issue	"Type" of generic issue.

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DELETE ENTITY:	REASON:
Licensee Performance Evaluation	This is an application using information contained in other entities such as license and inspection.

For each of the new entities and those entities with name changes, revised pages for the Data Entity Dictionary are included in the Data Entity Dictionary addendum.

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APPENDIX C

DATA ENTITY BUBBLE CHARTS

INDEX

CLUSTER NAME*	PAGE
Allegation	C-1
Building/Property	C-2
Commission	C-3
Enforcement	C-4
Events	C-5
Finance/Accounting	C-6
Hardware	C-7
Inspection	C-8
Issues	C-9
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License	C-11
Licensing Action	C-12
Operator	C-13
Organization	C-14
Personnel	C-15
Procurement	C-16
Radioactive Materials	C-17
Regulatory	C-18
Research	C-19
Site	C-20
State	C-21
Vendor	C-22

*Called a "cluster" prior to data modeling when many-to-many relationships are normalized and inter-cluster links are established. From these clusters, logical databases are created.

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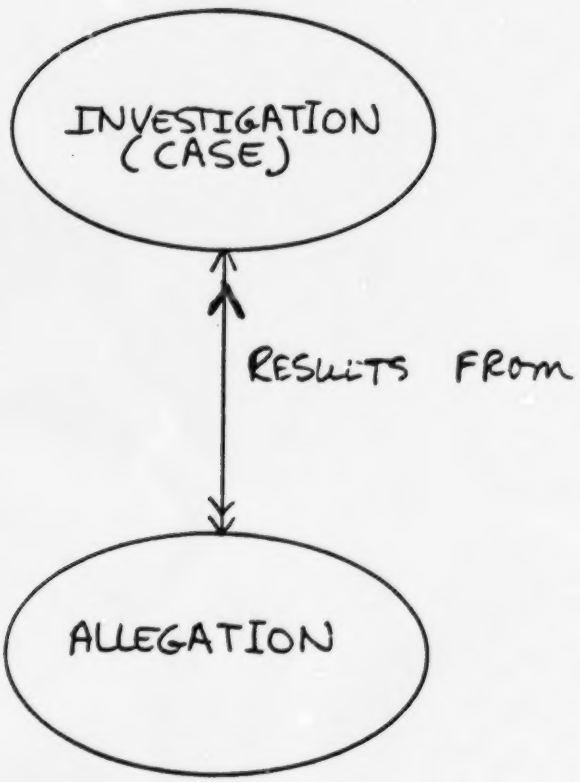
ALLEGATION-CLUSTER



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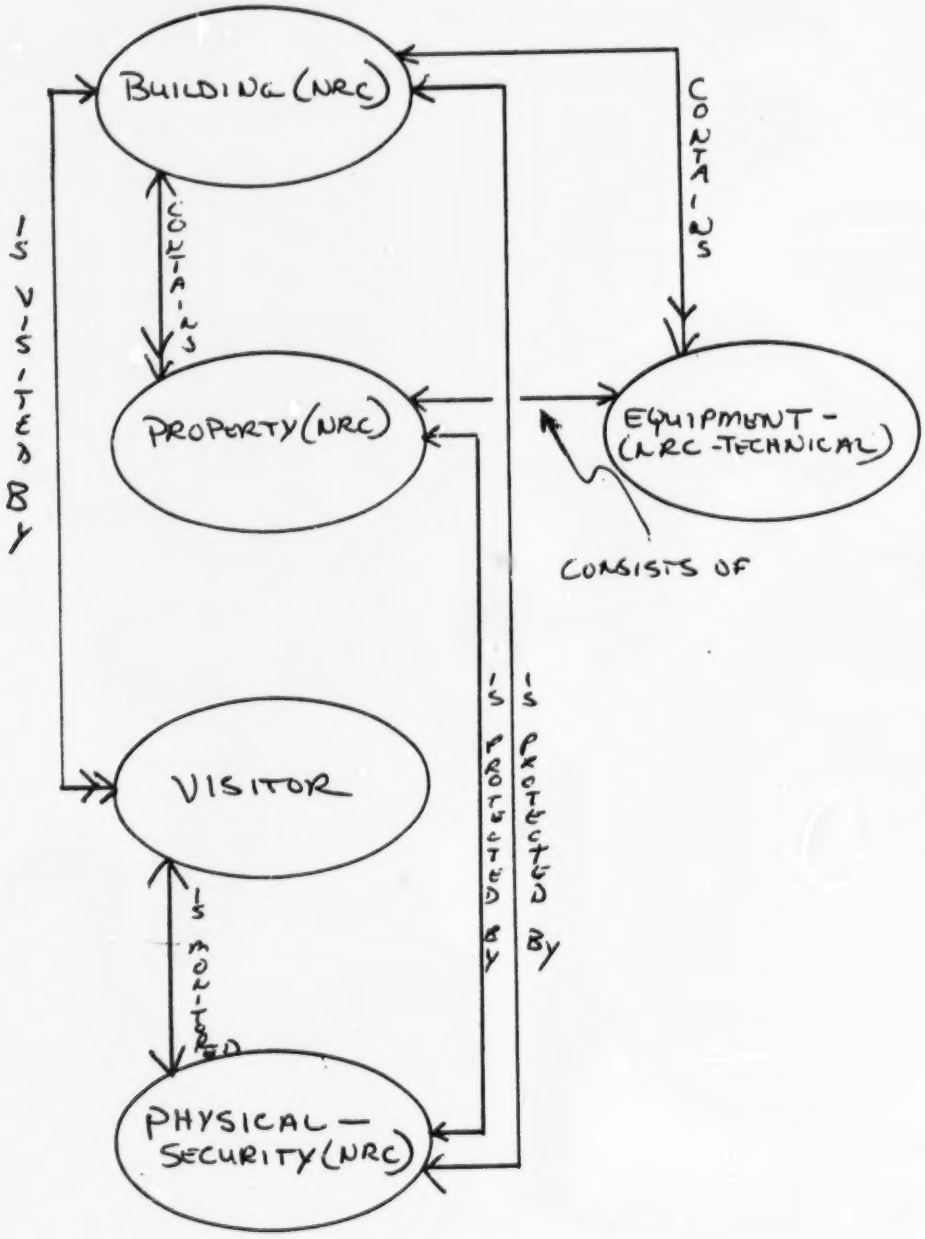
BUILDING/PROPERTY-CLUSTER



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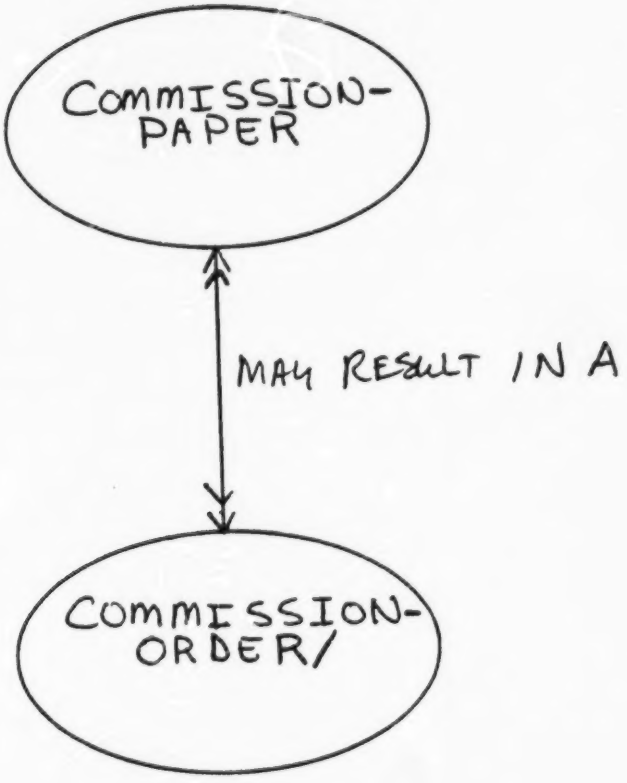
Commission Cluster



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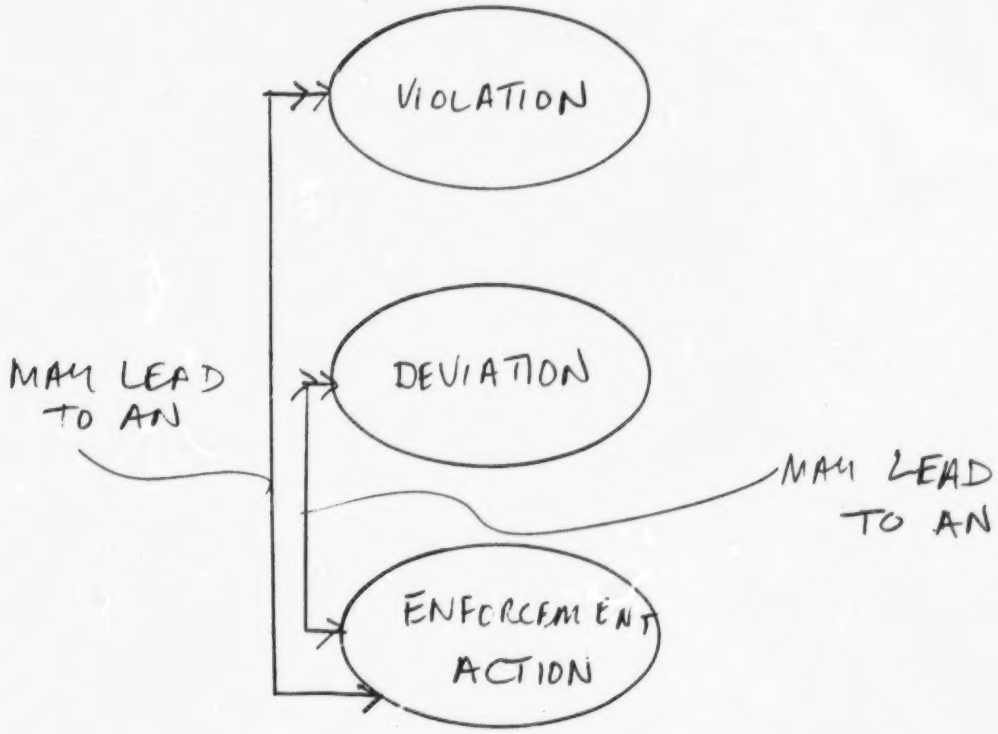
ENFORCEMENT-CLUSTER



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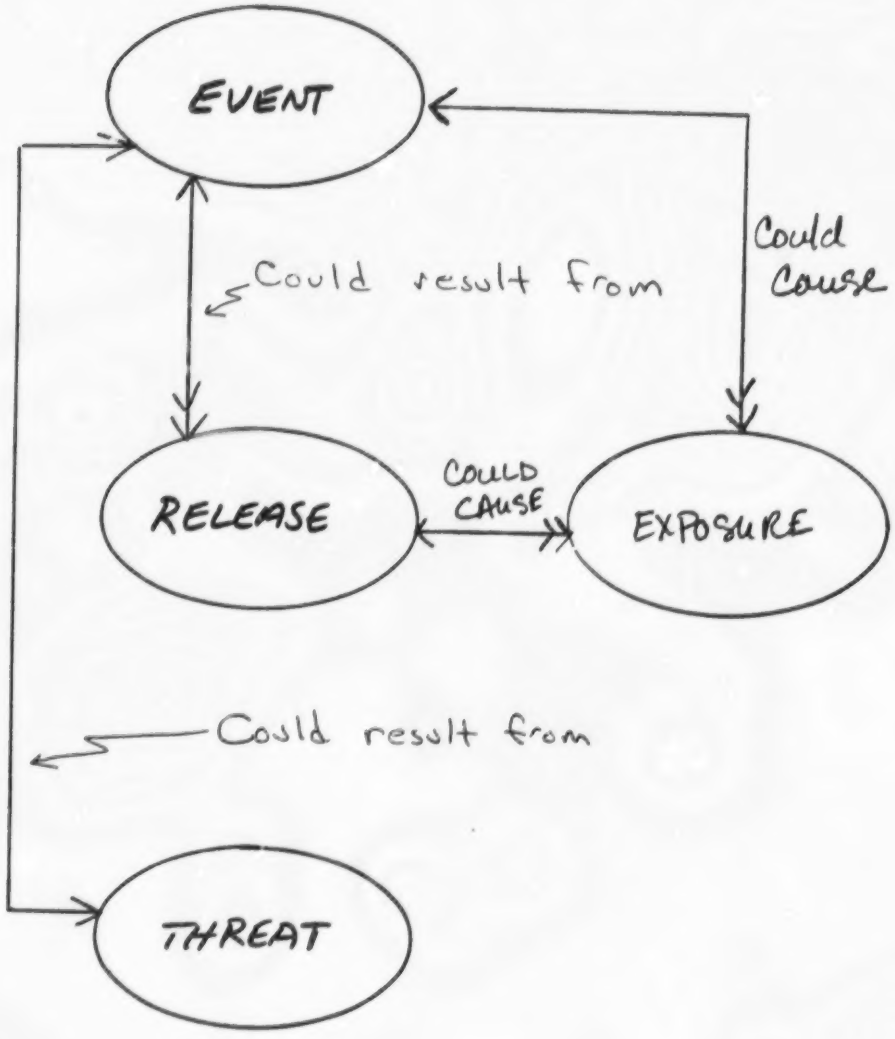
EVENTS - CLUSTER



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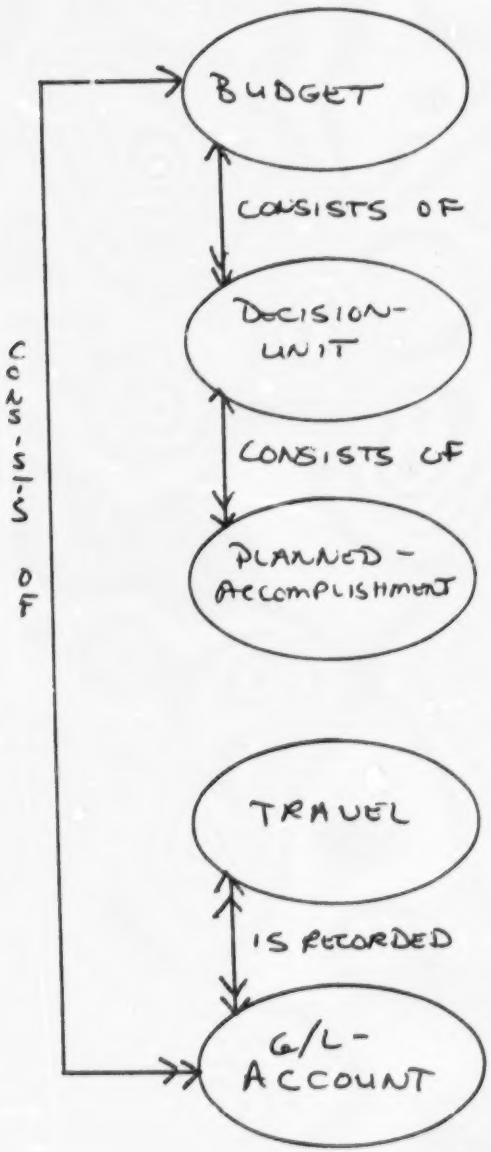
FINANCE /ACCOUNTING-CLUSTER



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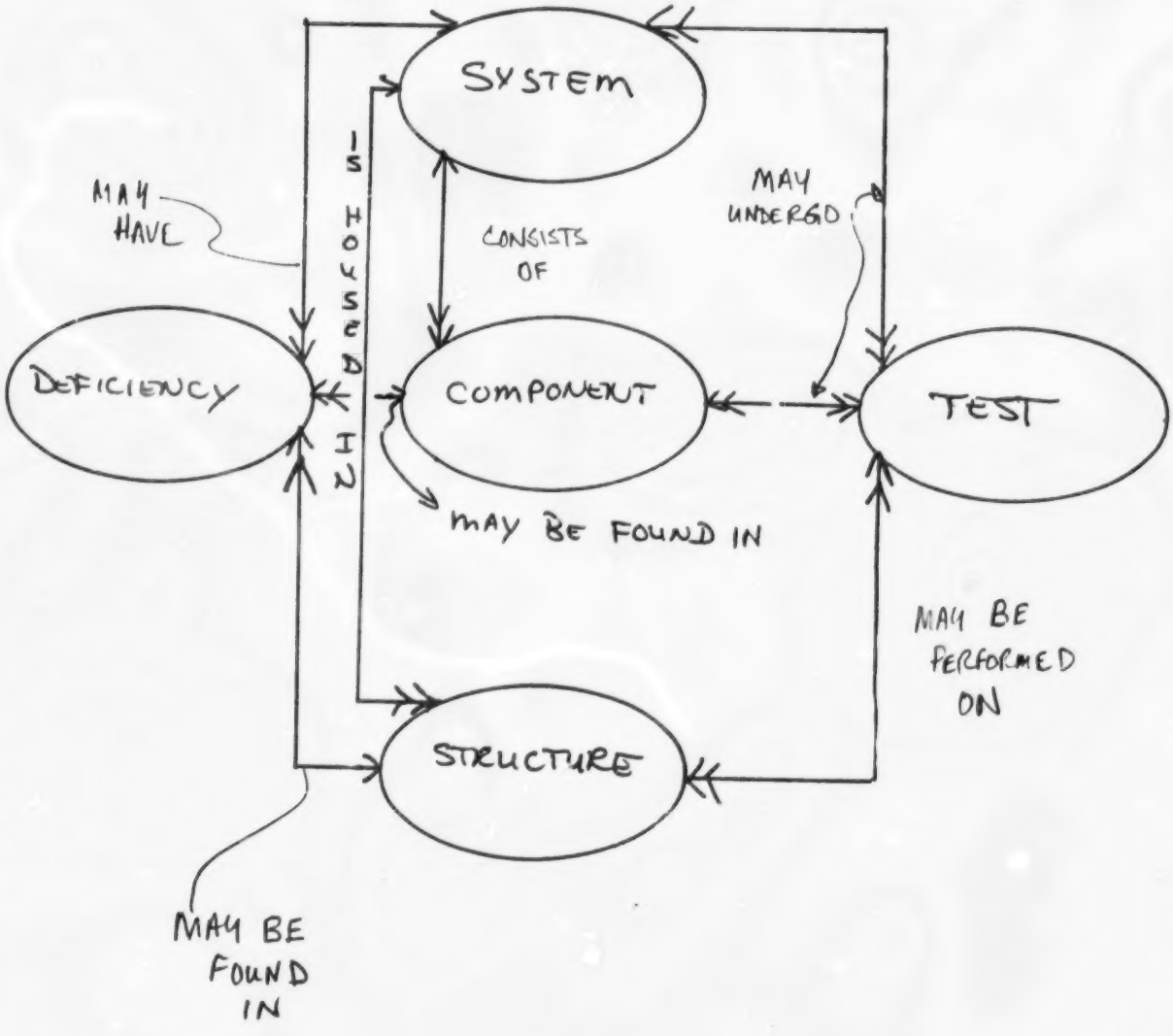
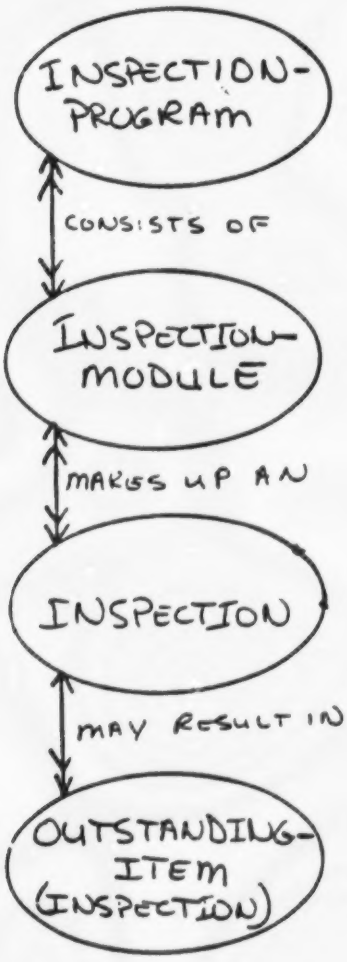
HARDWARE-CLUSTER



INSPECTION-CLUSTER



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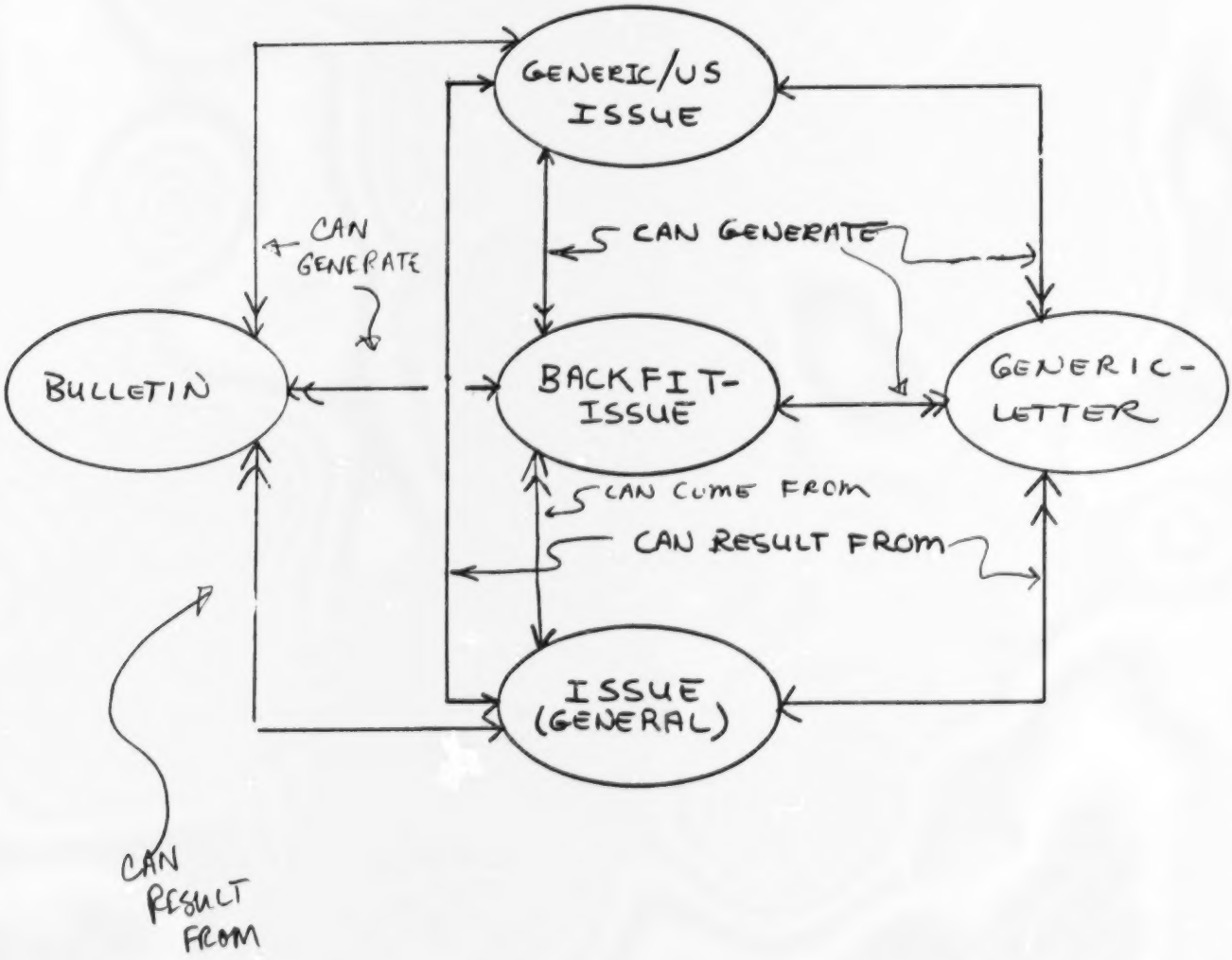
ISSUES-CLUSTER



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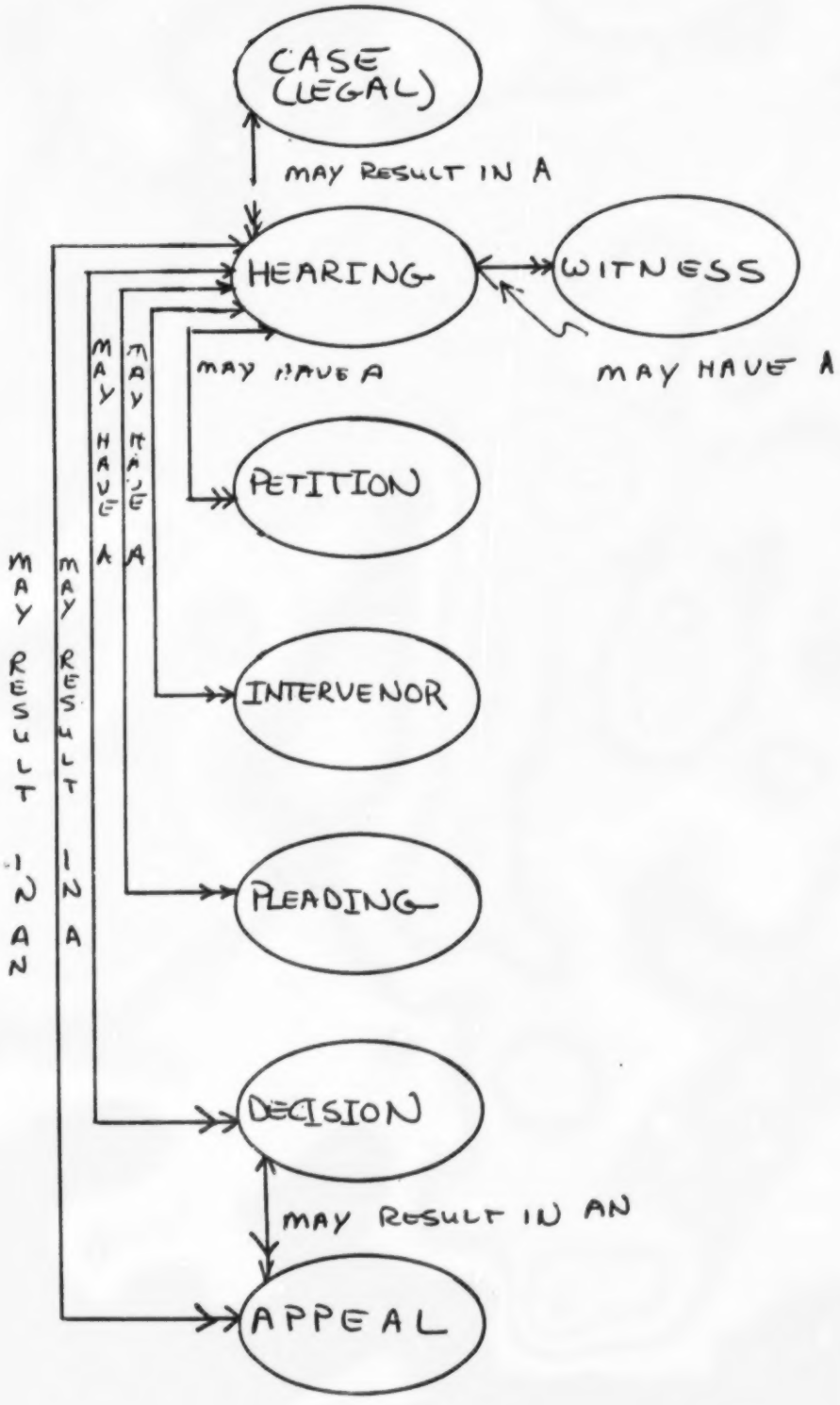
LEGAL-CLUSTER



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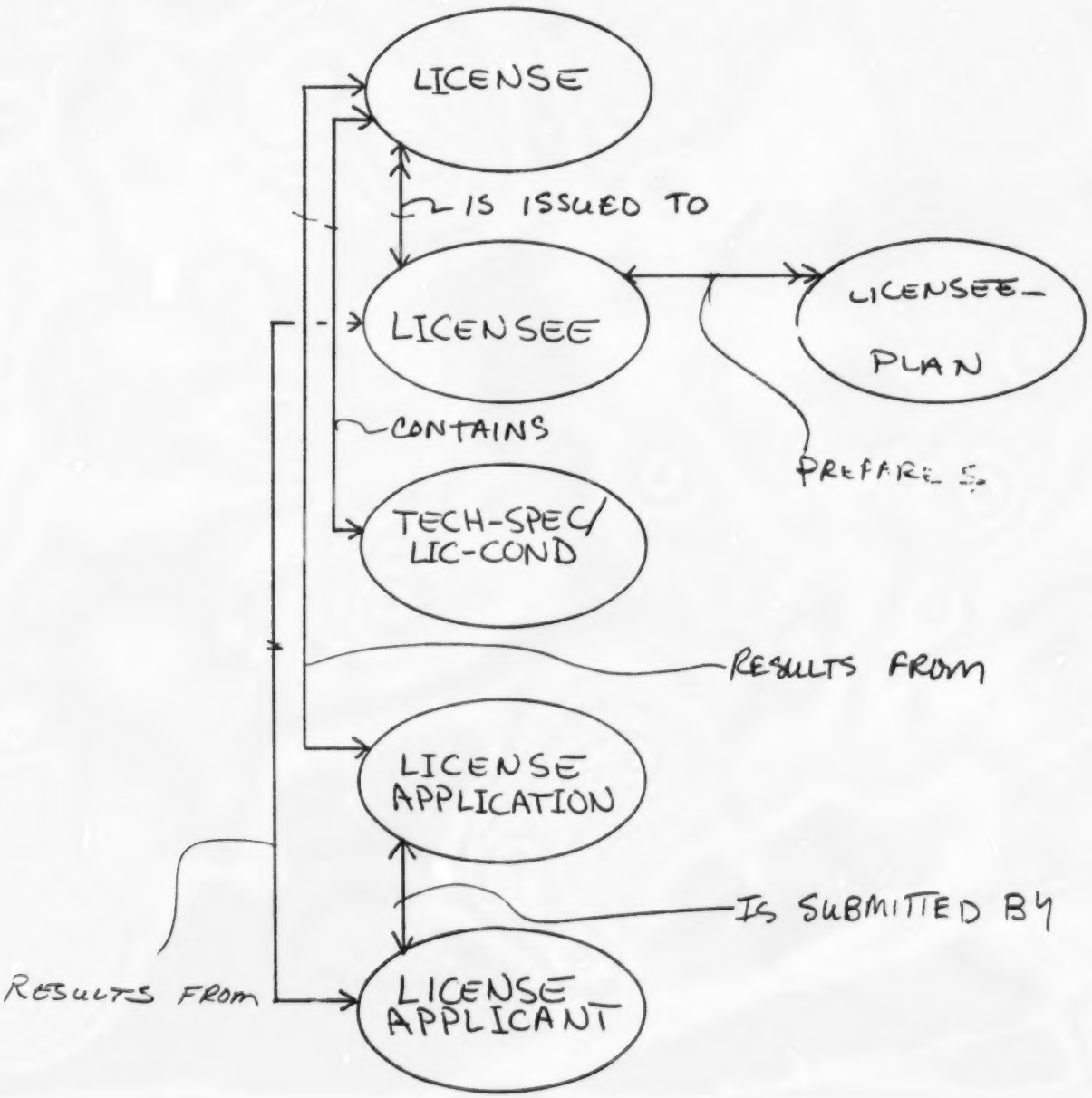
LICENSE-CLUSTER



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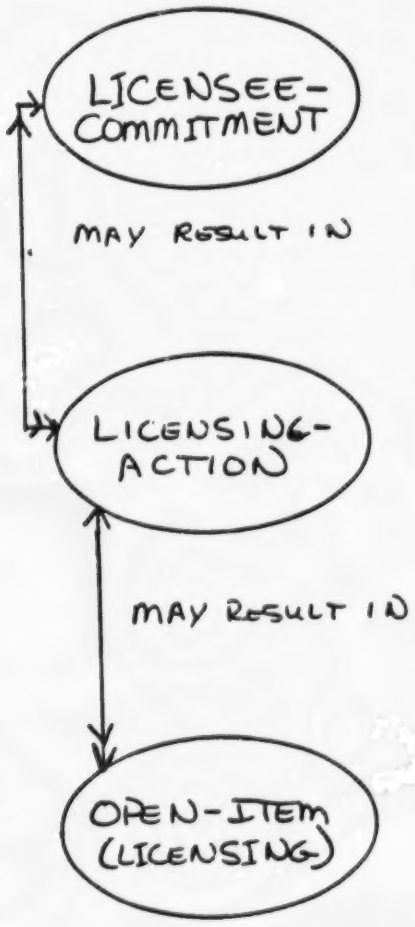
LICENSING-ACTION-CLUSTER



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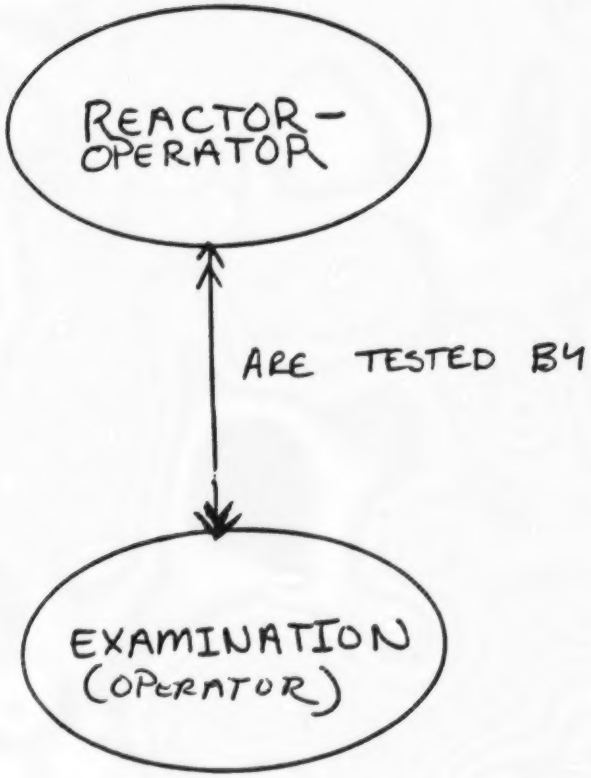
OPERATOR
CLUSTER



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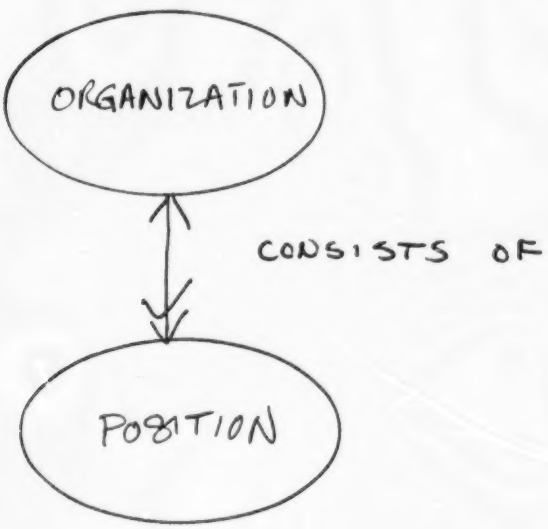
ORGANIZATION-CLUSTER



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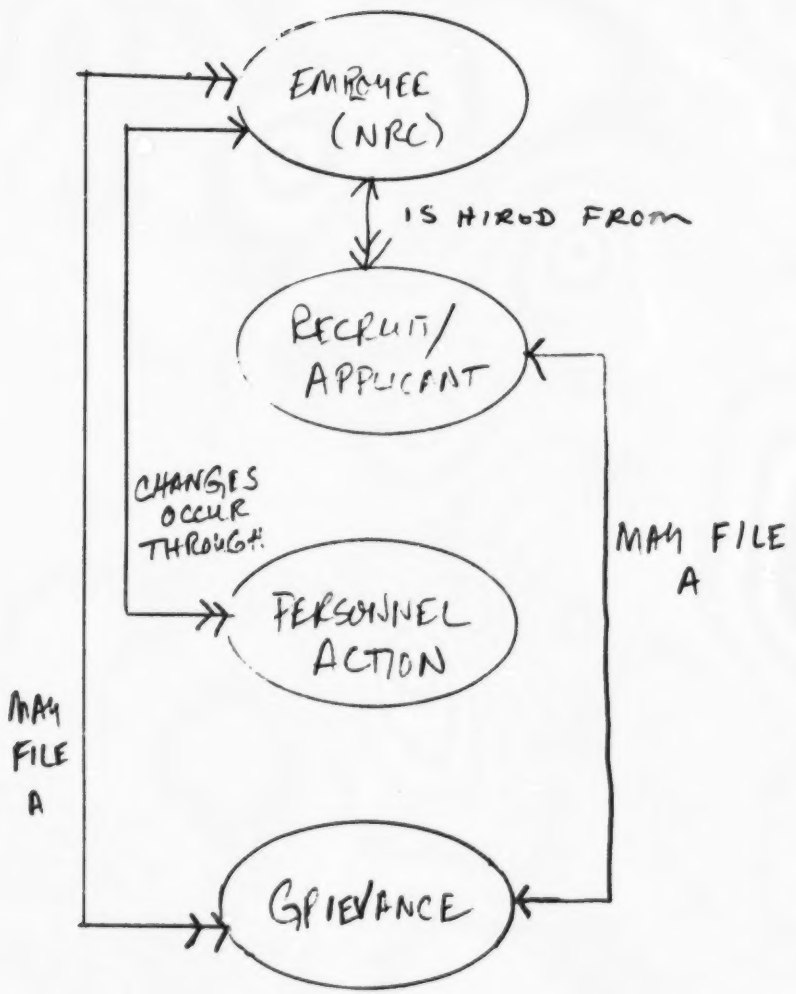
PERSONNEL - CLUSTER



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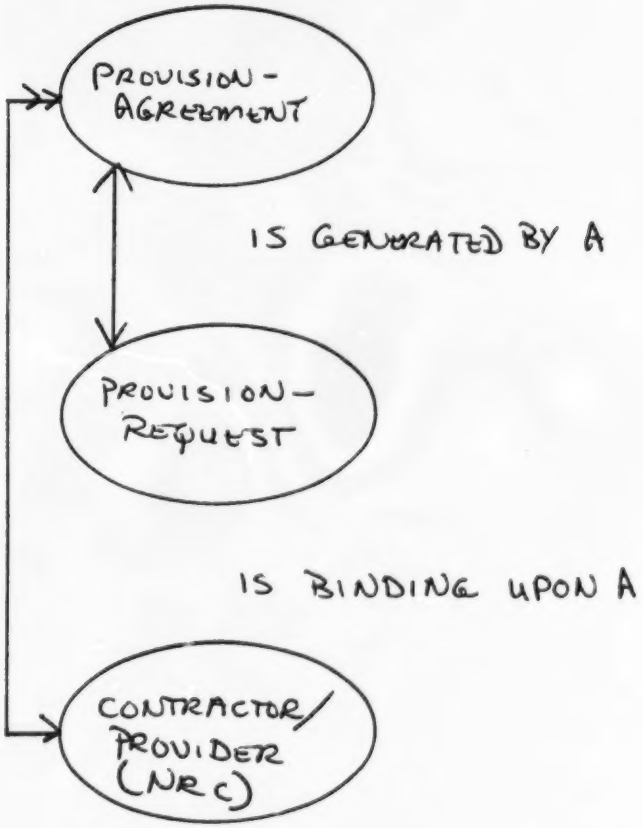
PROCUREMENT-CLUSTER



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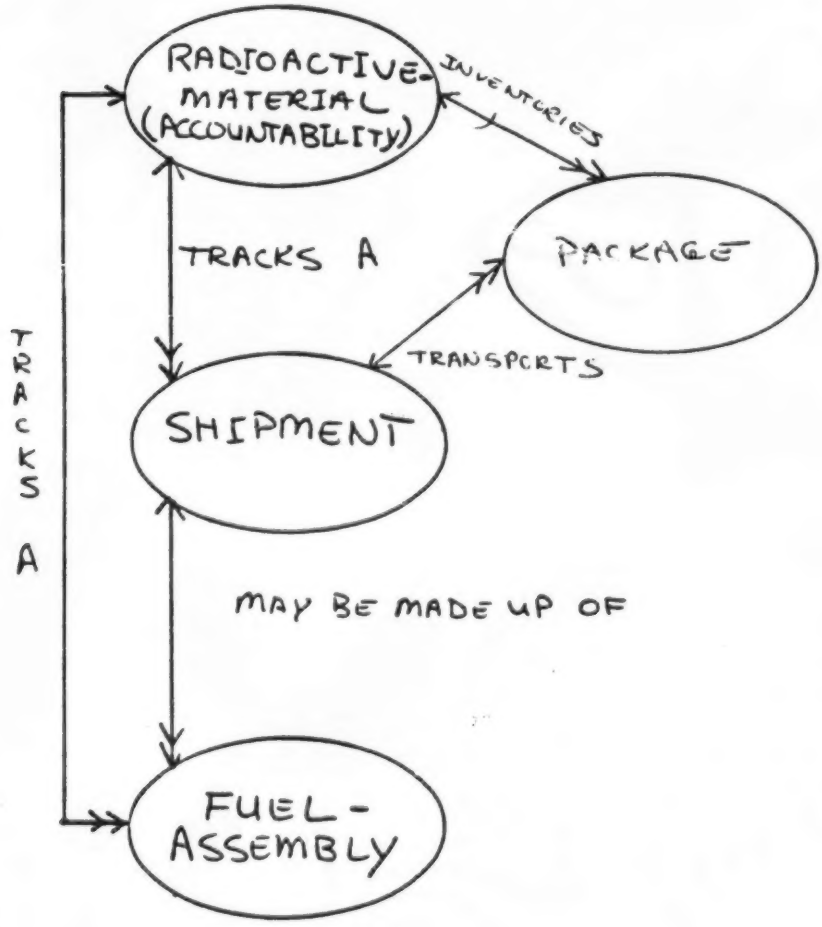
RADIOACTIVE-MATERIALS-CLUSTER



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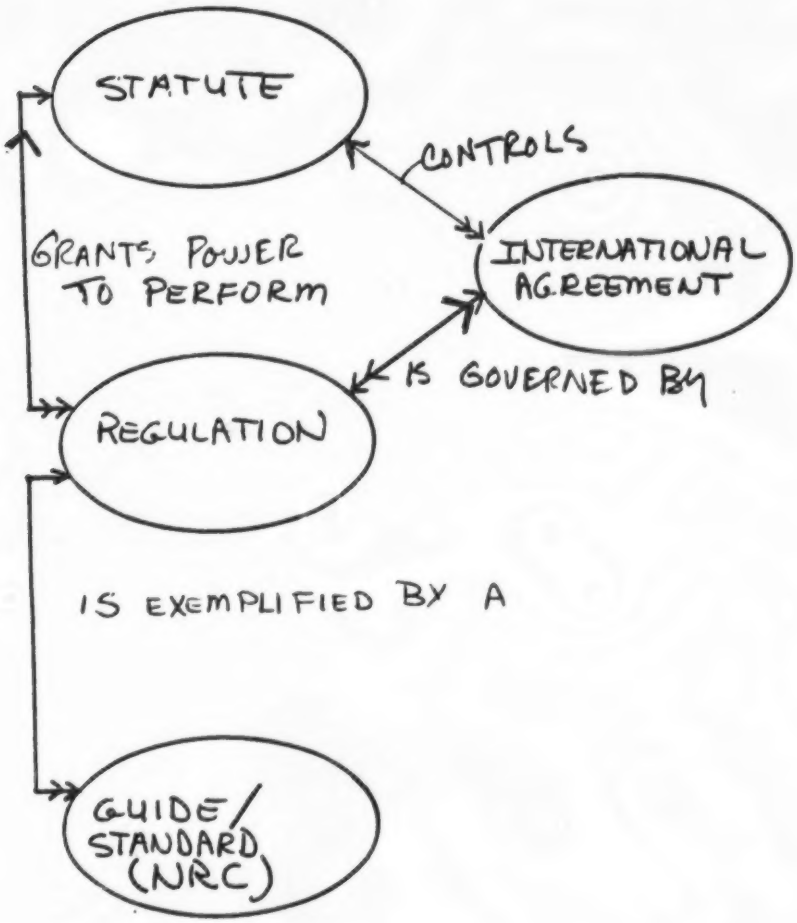
REGULATORY-CLUSTER



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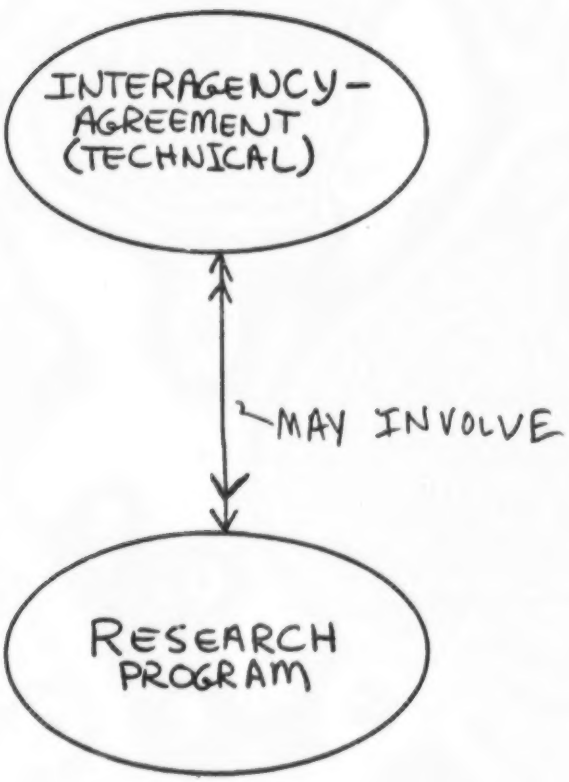
RESEARCH-CLUSTER



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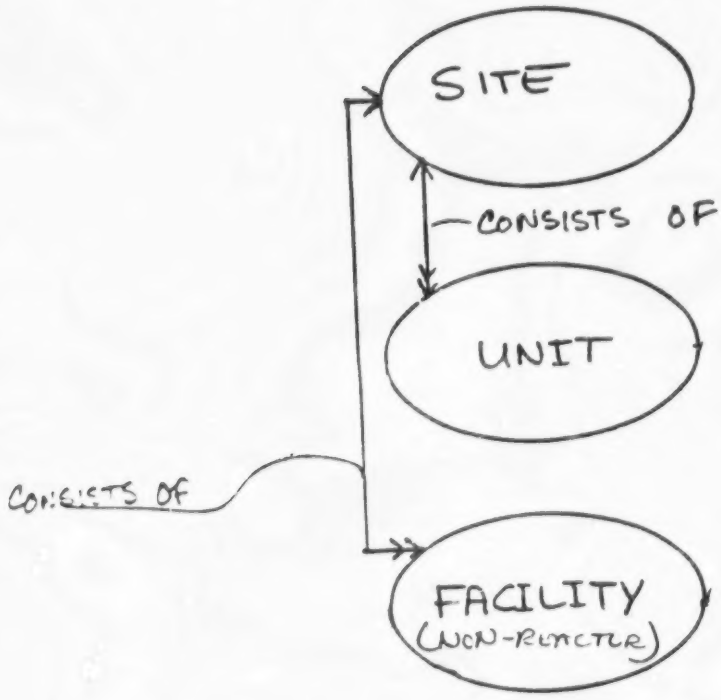
SITE-CLUSTER



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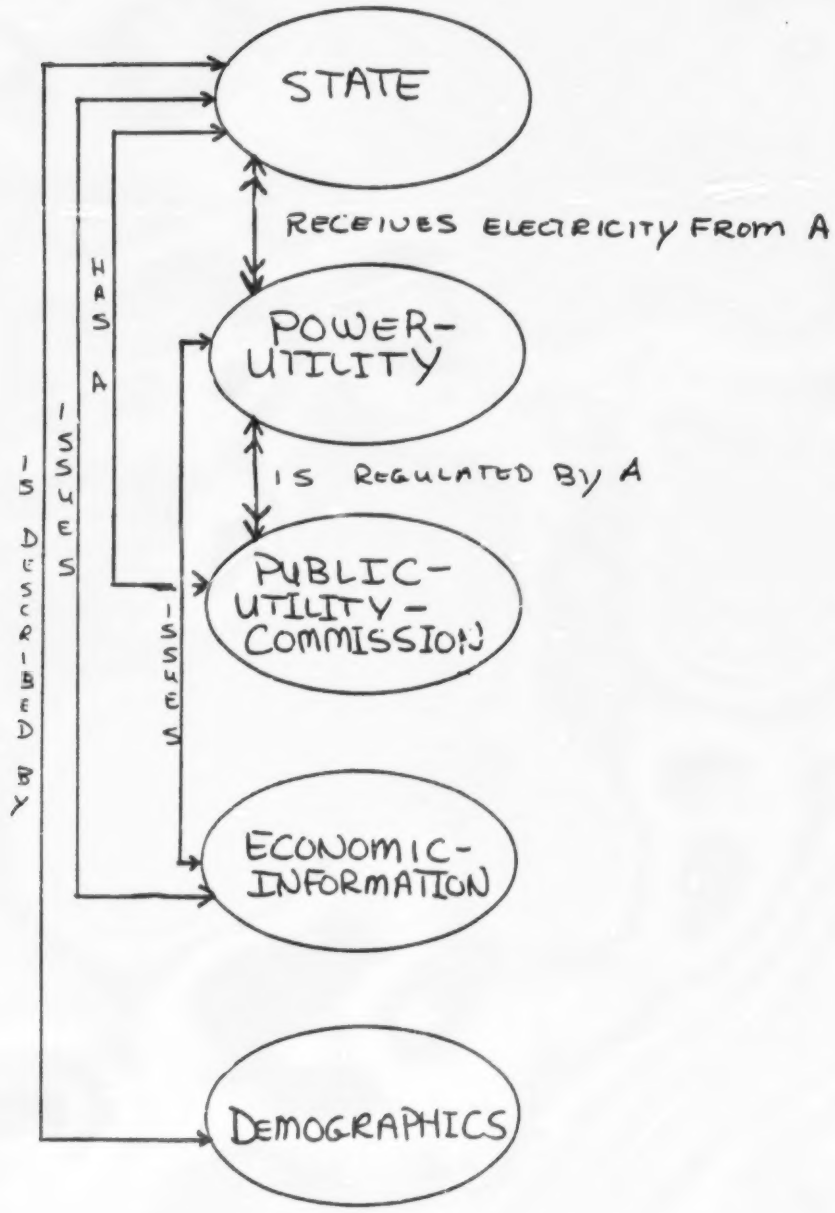
STATE-CLUSTER



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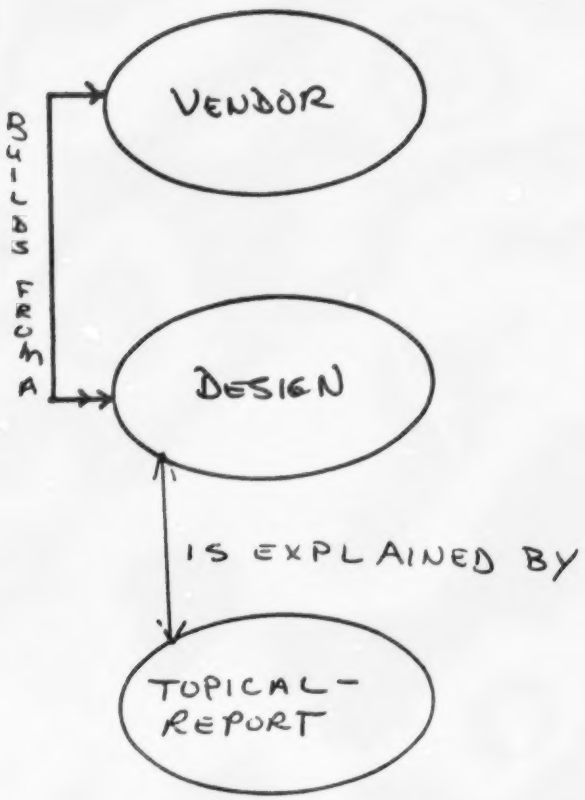
VENDOR-CLUSTER



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APPENDIX D

LIST OF PARTICIPANTS IN DATA MODELING TASK

NAME		OFFICE/DIVISION
Baer	Robert	Inspection and Enforcement/DEPER
Clements	William	Secretary
Collins	Michael	Administration/TIDC
Diehl	David	Resource Management
Dube	Nancy	Legal/Program Support
Fitti	Charles	ASLBP
Frost	Jack	Resource Management
Glenn	William	Inspector and Auditor
Greher	Elliot	Inspection and Enforcement
Hebdon	Frederick	Analysis and Evaluation of Operating Data
Henderson	Karen	International Programs
Henry	James	NRR/Risk Analysis and Operations
Johnson	Graham	Resource Management/Accounting
Joyce	Joseph	Nuclear Reactor Regulation/DSI
Karman	Myron	Legal/Hearing
Kent	Stephen	Congressional Affairs
Kimberley	Sandra	Investigation
Landis	Kerry	Region II
Mathews	George	Administration/Program Support
McClendon	Harold	Administration/Contracts
Odegaarden	Richard	NMSS/FCMS
Petersen	James	State Programs
Richardson	Steven	Inspection and Enforcement
Robertson	June	NMSS/SG
Schaub	Lester	Resource Management
Schofield	Polly	Investigation
Scott	Steve	Administration/TIDC
Seelig	Claudia	NMSS/PS
Sparks	Eugene	NMSS
Stone	James	Inspection and Enforcement
Stuart	Arthur	Administration/Personnel
Swisher	Robert	NRR/Planning and Program Analysis
Tomlin	Gerald	Research
VanEpp	Janie	Resource Management
Wright	Guy	Resource Management

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NUREG/CR-4322, Vol. 3

2 TITLE AND SUBTITLE

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Vol. 3: Data Model

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4 DATE REPORT COMPLETED

MONTH: June YEAR: 1985

5 AUTHOR(S)

6 DATE REPORT ISSUED

MONTH: November YEAR: 1985

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Touche Ross and Company
1900 M Street, N.W.
Washington, DC 20036

8 PROJECT/TASK/WORK UNIT NUMBER

9 FIN OR GRANT NUMBER

D1225

10 SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code)

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U.S. Nuclear Regulatory Commission
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12 SUPPLEMENTARY NOTES

13 ABSTRACT (200 words or less)

The NRC has initiated a multi-year program to centralize its information processing in a Corporate Data Network (CDN). The new information processing environment will include shared databases, telecommunications, office automation tools, and state-of-the-art software. Touche Ross and Company was contracted with to perform a general data requirements analysis for shared databases and to develop a preliminary plan for implementation of the CDN concept. The Enterprise Model (Vol. 1) provided the NRC with agency-wide information requirements in the form of data entities and organizational demand patterns as the basis for clustering the entities into logical groups. The Data Dictionary (Vol. 2) provided the NRC with definitions and example attributes and properties for each entity. The Data Model (Vol. 3) defined logical databases and entity relationships within and between databases. The Preliminary Strategic Data Plan (Vol. 4) prioritized the development of databases and included a workplan and approach for implementation of the shared database component of the Corporate Data Network.

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strategic information planning
data processing
information engineering

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